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ABSTRACT

Indian tribes in the western United States own a considerable portion of the nation's uranium, strippable coal, oil shale, geothermal, natural gas and petroleum reserves. Research and observation show that the impacts of energy development activities on Indian lands and peoples are overwhelming. Perhaps the most significant impacts are the cumulative social and cultural effects of bringing instantaneous industrialization into traditional Indian societies. As demand for these resources continues to accelerate, the Indian people face a dilemma in which choices range from all-out energy development to the other extreme of no development at all. To prevent further exploitation, tribes must develop capable leadership, improve their technical skills, and determine to what extent they wish to maintain their traditions and cultures. The essays compiled in this document are examples of how social research might be used as an action mechanism for the benefit of Indian people who will face the brunt of energy development. Titles are: "Energy, Agriculture, and Social Science in the American West" by Jorgensen, Davis, and Mathews; "Black Mesa and the Hopi" by Clemmer; "Energy Developments and the Navajo Nation" by Robbins; "Can Tribes Control Energy Development?" by Owens; and "Energy Boom Towns: Views from Within" by Little. (NEC)

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# Native Americans and Energy Development

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*with a preface by*
Harris Arthur

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Joseph G. Jorgensen
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Shelton H. Davis
Robert O. Mathews

preface by
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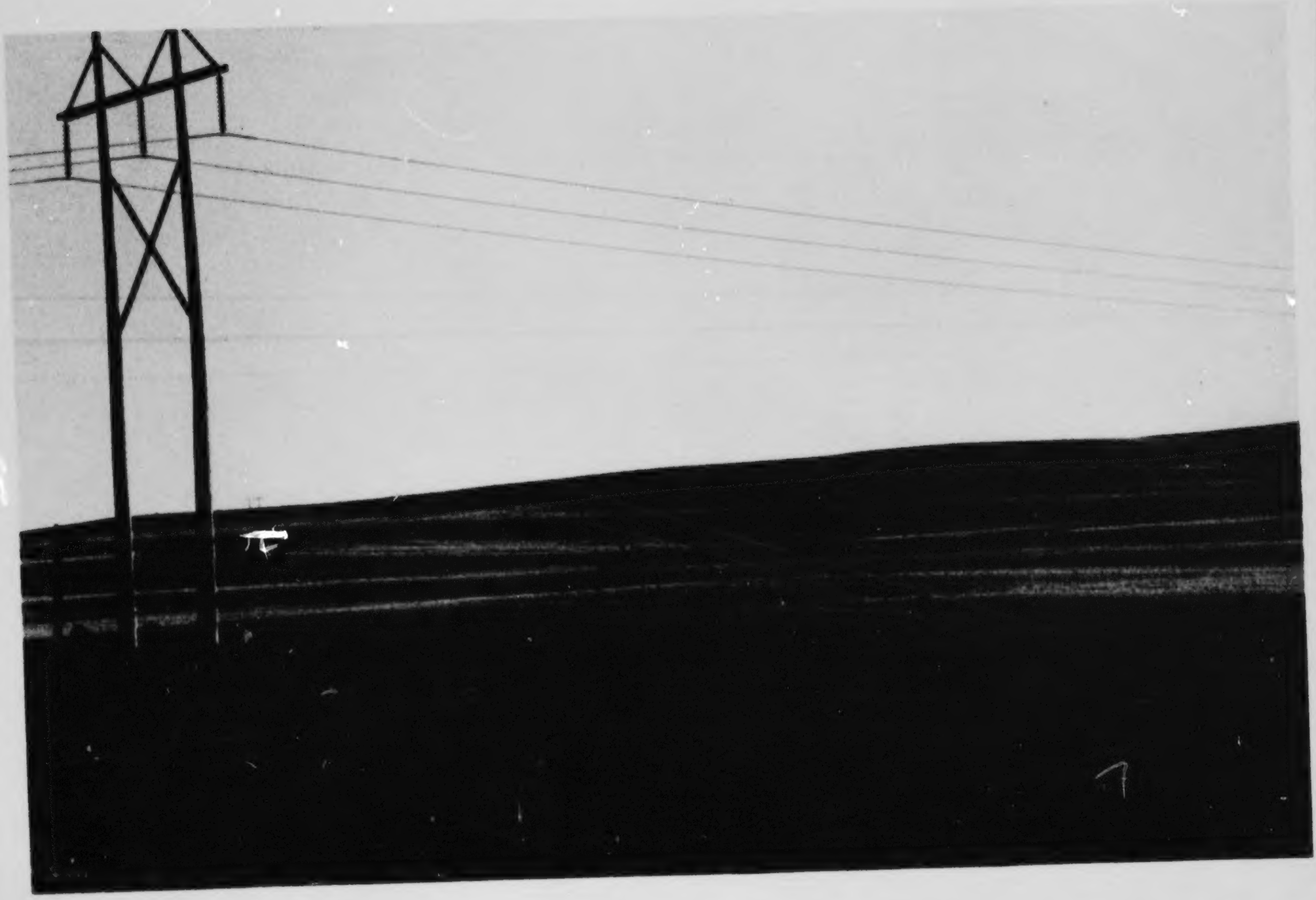

# Preface

### *Harris Arthur*

It is estimated that energy-resource tribes own 40 percent of the nation's uranium reserves, 30 percent of all strippable coal west of the Mississippi, and a large portion of the country's oil-shale, geothermal, natural-gas, and petroleum reserves. In 1977 alone, 23 million tons of coal were taken from Indian lands, representing 3.3 percent of all coal mined in the United States. Because of increased emphasis on coal conversion, this figure will increase in the future.

Research and observation show that the impacts of such activities on Indian lands are overwhelming. Social scientists, government officials, and elected tribal leaders often fail to exercise responsibility in advising tribal people of the adverse impacts of energy development. They often fail even to offer mitigating solutions to these impacts, which threaten tribal cultures and their social integrity. Although few have attempted to exercise this responsibility, the following essays are examples of how social research might be used as an action mechanism for the benefit of those who will face the brunt of energy developments.

As the demand for consumption continues to accelerate, energy and water resources on Indian lands will be in greater demand than ever before. The assault on these Indian resources will by no means diminish within the next decade. How the Indian people meet this challenge will largely be determined by each individual tribe's approach to economic and social development and the degree to which it wants to maintain its traditional culture.

There are many elements to be considered in addressing this challenge. The combined effects of such issues as Indian water rights, the nation's energy situation, and the economically depressed conditions of most Indian reservations have accelerated the exploitation of Indian resources in the last two decades. The cumulative effects of these factors have put the Indian people in a dilemma. Choices range from all-out, expansive energy-development programs with no holds barred to the other extreme of no development at all. It is my belief that neither extreme is likely to be chosen by Indian tribes that possess energy resources.

There is intense debate within some tribes about the degree of energy-related development that will occur on their lands. Some tribes have adopted a very conservative stance; the Northern Cheyenne, for example, have successfully obtained a Class I air-quality designation under the Clean Air Act Amendments of 1977. This action could have definite constraints on the number of mine-mouth energy facilities in the Northern Cheyenne region. A neighboring tribe, the Crow, have taken a position in favor of coal development, but only at the right price. On the other hand, the Navajo Tribe, whose lands now produce 13.9 million tons of coal annually for facilities on and off the reservation, have not held back on leasing their lands. In recent years they have signed leases totaling over 440,000 acres for coal and uranium development.

As a member of the Navajo Tribe, I have witnessed the impacts of these energy developments on my people. Although the Navajo Tribe has made tremendous improvements in the process of negotiating these leases, it still lacks the sophistication necessary to deal with the energy companies. There are no effective internal mechanisms to control the multinationals doing business on the reservation. Consequently, the impacts on the social structure and traditional culture of the Navajo people have been great.

I firmly believe that most of the energy resources on Indian lands will eventually be developed, but the rate of development will be determined by certain factors over which the Indian people have little, if any, control. In spite of the rhetoric of many tribal leaders about self-determination and tribal control of development, the sad truth is that internal control mechanisms simply do not exist, and it will be some time before tribal governments gain the sophistication necessary to negotiate equitable leases on their own or to provide the necessary controls. Take, for example, the recent El Paso Natural Gas Company lease with the Navajo Tribe, consummated in August 1976. There were several important aspects of this lease, the most important being the minimum royalty rate to be paid the tribe. Utilizing its best negotiating capability, the Navajo tribal leadership agreed to a royalty rate of 8 percent FOB mine price, while the tribal leaders should have known that the minimum royalty rate for equivalent coal from public lands was 12.5 percent at the time. Naturally, in an exercise of his fiduciary responsibility, the Secretary of the Interior could not approve the lease at the price the tribe had negotiated. No doubt this was embarrassing to the elected leadership of the tribe, and there was criticism of the Secretary for interfering when the tribe was acting on the strength of the self-determination policy. The point here is that the Navajo Tribe's negotiating capability was insufficient in dealing with the company on a one-to-one basis, and therefore the paternalistic action of the Secretary was necessary.

I mention internal mechanisms necessary for controlling development on Indian lands, and nowhere are they more needed than with my people, the Navajo. Basic governmental institutions are either absent or inadequate. There is no tax structure to deal with these giant corporations. Although attempts are now being made to correct this, the federal government is still active in determining how such a structure can be developed. The whole issue of environmental protection also is still largely out of tribal control, but, in the case of the Northern Cheyenne, some progress has been made.

Perhaps the most significant impacts of energy development on Indian people are the cumulative social and cultural effects of bringing instantaneous industrialization into traditional Indian societies. The story line is the same as for any underdeveloped nation in the Third World. Pressing economic needs, high unemployment, the need for immediate cash, and the general state of dependency are reasons why the social impacts of energy development have not been addressed adequately by tribal leadership and the federal government.

A recent survey by the Shiprock Research Center, an organization created to address these issues but no longer in existence, showed, among other things, that the economic well-being of the Navajo people in the Four Corners area had not improved all that much with the advent of energy development. Even though there are now jobs that did not exist prior to the construction of the mine and power plant in the Four Corners area, the median household income has declined since 1970. Per capita and mean household income appear to have increased, but the significant measure is the median household income, which is now $2,520.50, or $563.50 less than the Navajo median family income reported in the 1970 census. The study data indicated that this maldistribution of income is continuing and that it is further eroding the position of those at the lower income levels. Hence, the economic syndrome common in Third World nations: the richer are getting more and the poorer seem to be getting less and less.

In conclusion, if tribes develop the necessary expertise and technical capability, they perhaps can maximize benefits from energy-development activities on their lands. If, on the other hand, trends continue as they have in the last decade, the toll that energy development will take on Indian people can conceivably be disastrous. To prevent this, tribes have to develop capable leadership, improve their technical skills, and determine to what extent they wish to maintain their traditions and cultures. Invariably, there will have to be compromises. The choices will not be easy, and certainly the energy companies know the situation and will undoubtedly make these choices more difficult for tribes. The following essays present the situation accurately, and I sincerely hope that they can be utilized effectively by decision makers in tribal and federal governments and the general Indian community.

# Energy, Agriculture, and Social Science in the American West

*Joseph G. Jorgensen*
*with*
*Shelton H. Davis and Robert O. Mathews*

*"Energy development will bring sweeping changes to the Mountain States, which include Colorado, Idaho, Montana, New Mexico, Utah, Wyoming, and the eastern parts of Nevada and Arizona as well. Already, energy companies are expected to spend $5-billion by 1980 just in Colorado, Wyoming, and New Mexico. New communities with thousands of residents will spring up in sparsely populated areas to meet the employment needs for mining and gasification complexes. Vast tracts will be disturbed as development goes forward. More than 70,000 acres, for example, will be stripped to mine just the coal in Wyoming's Powder River Basin. New people, new jobs, new capital, and new urban growth are just over the horizon."*[1]

American business has always had a gift for turning the serious problems of real people into euphemisms and metaphors. Nowhere was this gift more evident than in the corporate publicity that followed the Middle East oil embargo and "energy crisis" of 1973. In January 1975, for example, *Business Week* published an article describing the vast potential for energy development in the West. Although the article mentioned the uncontrolled growth, environmental destruction, and scarcity of water that such development would bring, it concluded that these problems could be solved and that "the future looks exciting." After describing a number of benefits that energy corporations were bringing to Western communities, the article quoted an enthusiastic management consultant: "Energy development will bring many innovations, and the uncertainty is an appealing feature, just as it was to the people who came West in covered wagons 100 years ago. Change adds to the excitement. Energy development underscores the feeling it still is possible to make it big out West."[2]

Such optimistic assessments of the future seldom take into account the history of energy development in the West. To understand present developments, we must first recognize that since World War II, the production of two of America's most important fuels—coal and uranium—has been increasingly dominated by a small number of firms. In 1955, the fifteen largest coal companies produced about one-third of the nation's coal. Table 1 shows that by 1972 the fifteen largest companies, many recently acquired by oil, steel, and electric-utility corporations, accounted for over 50 percent of U.S. coal production.

Another postwar trend has been the introduction of new energy and extractive technologies. Again, these changes have been dramatic in the coal industry. By the early 1970s, more than a third of the coal produced came from open-pit rather than underground mines. Strip mining has been favored because of its low costs: output per man-day of labor is 100 percent greater than in underground mining; average recovery is 60 percent higher; and operating costs are 30 percent lower. Inexpensive strip-mined coal was particularly attractive to utilities faced by rising postwar demands for electricity. At the same time, the U.S. Bureau of Mines and the Office of Coal Research were exploring techniques developed in Europe for converting coal into gas and thereby lowering the transportation costs of the industry.[3]

The western United States was an ideal place for implementing these new technologies. More than 90 percent of the low-sulfur coal reserves are in the West, over half in Wyoming alone. Of the low-sulfur reserves accessible to strip mining, 87 percent are in Wyoming, Montana, New Mexico, and North Dakota.[4]

Furthermore, as Table 2 shows, much of this Western coal is on land owned by the federal government and Indian tribes. The Mineral Leasing Act of 1920 and the Omnibus Tribal Leasing Act of 1938 authorize the federal government, through the Secretary of the Interior and the Bureau of Indian Affairs (BIA), to lease public and Indian mineral rights to

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[1] "The Mountain States: Cooling the Boom from Energy Resources," *Business Week*, 27 January 1975, p. 108.

[2] Earl E. Swartzlander, quoted in "The Mountain States," p. 113.

[3] James Ridgeway, *The Last Play: The Struggle to Monopolize the World's Energy Resources* (New York: New American Library, 1973), pp. 169–171.

[4] Thomas D. Duchesneau, *Competition in the U.S. Energy Industry*, A Report to the Energy Policy Project of the Ford Foundation (Cambridge, Mass.: Ballinger, 1975), pp. 250–251.

**TABLE 1**

*Coal Production by Fifteen Largest U.S. Producers, 1972*

| *Rank* | *Producer* | *Parent Company* | *Tonnage (Bituminous and Lignite) (tons)* | *Percent of Total* |
|---|---|---|---|---|
| 1 | Peabody | Kennecott Copper[a] | 71,595,310 | 12.1 |
| 2 | Consolidation | Continental Oil | 64,942,000 | 11.0 |
| 3 | Island Creek | Occidental Petroleum | 22,605,114 | 3.8 |
| 4 | Clinchfield | Pittston | 20,639,020 | 3.5 |
| 5 | Ayrshire | Amax | 16,380,303 | 2.8 |
| 6 | U.S. Steel | U.S. Steel | 16,254,400 | 2.8 |
| 7 | Bethlehem Mines | Bethlehem Steel | 13,335,245 | 2.3 |
| 8 | Eastern Associated | Eastern Gas and Fuel | 12,528,429 | 2.1 |
| 9 | North American | North American | 11,991,004 | 2.0 |
| 10 | Old Ben | Standard Oil of Ohio | 11,235,910 | 1.9 |
| 11 | Freeman & United Electric | General Dynamics | 9,951,263 | 1.7 |
| 12 | Westmoreland | Westmoreland | 9,063,919 | 1.5 |
| 13 | Pittsburgh & Midway | Gulf Oil | 7,458,791 | 1.3 |
| 14 | Utah International | Utah International[b] | 6,898,262 | 1.2 |
| 15 | Central Ohio Coal, Southern Ohio Coal, and others | American Electric Power | 6,329,389 | 1.1 |
| Total: Top 15 | | | 296,912,359 | 51.1 |
| Total: Others | | | 293,087,641 | 48.9 |
| Total U.S. Production | | | 590,000,000 | 100.0 |

[a] Peabody purchased in 1977 by a consortium of Newmont Mining, Williams, Bechtel, Boeing, Fluor, and Equitable Life Assurance.

[b] Utah International acquired in 1976 by General Electric.

*Source:* Thomas D. Duchesneau, *Competition in the U.S. Energy Industry*, A Report to the Energy Policy Project of the Ford Foundation (Cambridge, Mass.: Ballinger, 1975), p. 75.

**TABLE 2**

*Estimated Ownership of Coal Lands in Five Southwestern States*[a]

| | *Ownership (in Percentages)* | | | | | |
|---|---|---|---|---|---|---|
| *State* | *U.S. Gov't* | *State Gov't* | *Indian Tribes* | *Western RR's* | *Private* | *Total* |
| Wyoming | 48 | 12 | 0 | 20 | 20 | 100 |
| Utah | 67 | 15 | 1 | 0 | 18 | 100 |
| Colorado | 36 | 14 | 6 | 20 | 24 | 100 |
| Arizona | 0 | 0 | 100 | 0 | 0 | 100 |
| New Mexico | 34 | 18 | 40 | 5 | 3 | 100 |
| Total | 45 | 13 | 13 | 12 | 17 | 100 |

[a] Provisional estimates based on incomplete data.

*Source:* Thomas D. Duchesneau, *Competition in the U.S. Energy Industry*, A Report to the Energy Policy Project of the Ford Foundation (Cambridge, Mass.: Ballinger, 1975), p. 81.

**TABLE 3**

*Acreage under Lease, 1973*

| | *Federal* | | *Indian* | | *Total* | |
|---|---|---|---|---|---|---|
| | *Leases* | *Acreage* | *Leases* | *Acreage* | *Leases* | *Acreage* |
| Arizona | 0 | 0 | 2 | 64,858 | 2 | 64,858 |
| Colorado | 112 | 121,907 | 1 | 19,452 | 113 | 141,359 |
| Montana | 17 | 36,229 | 4 | 91,390 | 21 | 127,619 |
| New Mexico | 28 | 40,953 | 3 | 82,854 | 31 | 123,807 |
| North Dakota | 20 | 16,193 | 0 | 0 | 20 | 16,193 |
| Utah | 195 | 265,674 | 1 | 200 | 196 | 265,874 |
| Wyoming | 91 | 199,898 | 0 | 0 | 91 | 199,898 |
| Total | 463 | 680,854 | 11 | 258,754 | 474 | 939,608 |

*Source:* Council on Economic Priorities, *Leased and Lost: A Study of Public and Indian Coal Leasing in the West* (New York: Council on Economic Priorities, 1974), p.3.

**TABLE 4**

*Coal Leases on Indian Lands, 30 June 1974*

| *Lessor* | *Lessee* | *State* | *Acreage* | *Competitive or Negotiated* | *Initial Lease Date* |
|---|---|---|---|---|---|
| Uinta | Redcreek Corp. | Utah. | 200 | Negotiated | 12 May 1941 |
| Navajo | Utah International | New Mexico | 31,416 | Negotiated | 21 Oct. 1957 |
| Navajo | Peabody Coal Co. | Arizona | 24,416 | Negotiated | 28 Aug. 1964 |
| Navajo | Pittsburgh and Midway (Gulf Oil) | New Mexico | 11,157 | Negotiated | 18 Sept. 1964 |
| Hopi and Navajo (joint lessors) | Peabody Coal Co. | Arizona | 40,000 | Negotiated | 20 June 1966<br>7 July 1966 |
| Southern Ute | Peabody Coal Co. | Colorado | 19,452 | Negotiated | 21 Mar. 1967 |
| Navajo | El Paso Natural Gas and Consolidation Coal (joint lessees) | New Mexico | 40,281 | Competitive | 2 Dec. 1968 |
| Northern Cheyenne | Peabody Coal Co. | Montana | 16,031 | Competitive | 3 Dec. 1970[a] |
| Crow | Shell Oil Co. | Montana | 30,247 | Competitive | 5 June 1972 |
| Crow | Westmoreland Coal | Montana | 30,876 | Competitive | 14 June 1972 |
| Crow | AMAX | Montana | 11,236 | Competitive | 15 Feb. 1973 |

[a] Northern Cheyenne leases suspended in 1974.

*Source:* U.S. Federal Trade Commission, *Staff Report on Mineral Leasing on Indian Lands* (Washington, D.C.: U.S. Government Printing Office, 1975), p.108.

private corporations. By 1973, as Table 3 shows, the federal government had leased 680,854 acres of public and 258,754 acres of Indian land, containing over 20 billion tons of coal. Table 4 details the eleven coal leases on Indian land as of June 30, 1974.

In the midst of criticism of its leasing policies, the Interior Department declared a moratorium on further leasing in 1973. The following year, the Council on Economic Priorities (CEP) published a report, called *Leased and Lost*, that examined Western coal leasing. The CEP found that fifteen large corporations—among them Continental, Shell, Sun, Gulf, and Arco oil companies—controlled 70 percent of the land under lease, and that the government had not required these companies to plan for resource use, pay fair market value, or protect the environment.[5] In August 1976 Congress passed the Federal Coal Leasing Amendments Act, which clari-

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[5] Council on Economic Priorities, *Leased and Lost: A Study of Public and Indian Coal Leasing in the West* (New York: Council on Economic Priorities, 1974).

**TABLE 5**

*Energy Resource Production from Indian Lands, Public Lands, and Total United States, Fiscal Year 1974*

| | Energy Resource Production | | | |
|---|---|---|---|---|
| *Type of Land* | *Coal*[a] | *Oil*[b] | *Gas*[c] | *Uranium Ore*[a] |
| Indian Lands | 11,508,000 | 30,685,000 | 125,080,000 | 1,136,739 |
| Public Lands | 20,178,000 | 168,782,000 | 1,049,699,000 | 0 |
| Total U.S. | 595,500,000 | 3,199,328,000 | 21,711,870,000 | NA |
| Indian Lands as Percent of Public and Indian Lands | 36.3 | 15.4 | 3.7 | 100.0 |
| Indian Lands as Percent of Total U.S. | 1.9 | 1.0 | 0.6 | 19.0 |

[a] Tons.
[b] Barrels.
[c] Thousand cubic feet.

*Source:* U.S. Federal Trade Commission, *Staff Report on Mineral Leasing on Indian Lands* (Washington, D.C.: U.S. Government Printing Office, 1975), pp. 6–8.

fied leasing guidelines, and the Interior Department resumed leasing in 1977.

Table 5 indicates that as of 1974 the production of coal, oil, and natural gas from Indian lands had not yet comprised a significant proportion of total U.S. production, although Indian uranium sources did make up nearly a fifth of national production. These figures, however, underestimate the potential importance of Indian energy resources. First, the Council of Energy Resource Tribes (CERT) estimates that twenty-three Western Indian tribes control 33 percent of the country's low-sulfur, strippable coal, 80 percent of the nation's uranium reserves, and between 3 and 10 percent of the country's petroleum and gas reserves.[6] Second, only 23.4 percent of oil and gas leases, 36.0 percent of coal leases, and fewer than 1 percent of uranium leases on Indian lands were producing in 1974.[7] Finally, the significance of Indian energy resources must be seen in light of President Carter's commitment to increasing use of coal and nuclear power.[8]

In this essay, we shall provide a broad overview of what these energy developments mean for both Indian and Anglo populations in the West. We shall begin our discussion with a brief description of postwar changes in the Western agricultural economy. We shall then present a hypothesis for explaining the twin processes of development and underdevelopment in the region. After this, we shall describe the effects of recent energy developments on rural Anglo populations and Indian tribes. To conclude, we shall make some personal observations about the responsibilities of social-science research in the context of Western energy development.

## Western Agribusiness

Most Americans, including social scientists, only hazily understand the relationship of rural regions to urban centers. From 1920, when massive migration from rural regions began, to the present, the farm population of the United States has plummeted from 32 million to 8.2 million—from 30.1 percent to 3.9 percent of the total population.[9] This has not been fortuitous; family farms have withered as agribusiness has changed from a labor-intensive to a capital-intensive industry. Family farmers have been left behind, and they are getting older. The average age of the American farmer is fifty-three, and of his wife, fifty.

A few selected statistics, summarized in Table 6, will help us understand why family farms are being liquidated at a rapid pace. The plunge from 6.52 million farms in 1920 to 2.75 million in 1977 has been accompanied by a 13 percent increase in total farm acreage, from 956 million to 1,081 million acres; a 130 percent increase in farms larger than 1,000 acres, from 67,000 to 154,000; and incredible increases in capitalization costs required for economically successful farming. For instance, since 1920 fertilizer

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[6] Joseph G. Jorgensen, "A Century of Political Economic Effects on American Indian Society: 1880–1980," *Journal of Ethnic Studies*, 6, Fall (1978).

[7] U.S. Federal Trade Commission, *Staff Report on Mineral Leasing on Indian Lands* (Washington, D.C.: U.S. Government Printing Office, 1975), pp. 5–8.

[8] Shelton H. Davis and Robert O. Mathews, "National Energy Policy: Western Coal and Corporate Frontier," *Anthropology Resource Center Newsletter*, 1, No. 2 (1977), 1–2.

[9] U.S. Bureau of the Census, *Statistical Abstracts of the United States, 1977* (Washington, D.C.: U.S. Government Printing Office, 1978).

**TABLE 6**

*Changes in United States Agribusiness, 1920–1977 (Selected Years)*

| Year | Farm Population (Millions) | Farm Population (Pct. of Total) | Farms (Millions) | Land in Farms (Millions of Acres) | Average Land Per Farm (Acres) | Farms over 100,000 Acres | Farms with Tractors[a] (Pct. of Total) | Farms with Trucks (Pct. of Total) | Labor Time | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Man-hours[b] (Billions) | Output[c] |
| 1920 | 32.0 | 30.1 | 6.52 | 956 | 147 | 67,000 | 3.6 | 2.0 | 24.0 | — |
| 1940 | 30.5 | 23.2 | 6.35 | 1,061 | 167 | | 23.0 | 15.5 | 20.5 | 21 |
| 1960 | 15.6 | 8.7 | 3.96 | 1,176 | 293 | | 65.0 | 55.0 | 9.8 | 67 |
| 1977 | 8.2 | 3.9 | 2.75 | 1,081 | 393 | 154,000 | 70.0 | 68.0 | 5.3 | 141 |

[a] Excludes garden tractors.
[b] Man-hours of labor required on all U.S. farms.
[c] Index of farm output per man-hour (1967 = 100).

*Sources:* U.S. Bureau of the Census, *Historical Statistics of the United States from Colonial Times to the Present* (Washington, D.C.: U.S. Government Printing Office, 1975); U.S. Bureau of the Census, *Statistical Abstracts of the United States, 1977* (Washington, D.C.: U.S. Government Printing Office, 1978).

expenses have increased from $330 million to $2.5 billion. The value of all farm machinery on U.S. farms has risen from $3 billion in 1940, when records were first kept, to $73 billion in 1976. Since 1973 alone, the cost of farm equipment has more than doubled. Costs for seed, gas, oil, diesel fuel, and tires have risen with other expenses, yet prices farmers have received for grain, meat, and milk have dropped in the past five years.[10] Along with increased costs and the expansion of large corporate farms, the technological modernization of farming has displaced farm labor and family farmers. Innovations and the increasing use of capital equipment have reduced the man-hours of labor required on farms from 24 billion in 1920 to 5.3 billion in 1977. Since 1940, farm output per man-hour has increased sevenfold—two and one-half times since 1960 alone.

In part, the explanation for the shriveling of the rural population can be found in the transformation of agriculture from a labor-intensive to a capital-intensive industry. The major force that has pushed people from rural regions to urban areas is economic, even though agriculture has expanded to serve an ever-growing population. This expansion has benefited ever fewer farmers and corporations. The nonpareil farm sociologist Lowry Nelson once predicted that the farm population would recover from its low total in 1950 as the American population grew toward 250 million.[11] The dramatic changes in technology and capitalization proved him wrong. As the number of farms and the farm population have dropped, people who have stayed on their farms have fought bitterly to retain them, while often sending their children off to be educated so as not to return to the farm.[12] Agriculture holds no future for most farmers and their children. The residents of Western farming regions have watched the sheep and wool business plunge by 60 percent since 1960 and 25 percent since 1970; have watched feed lots dominate the cattle-fattening business; and have watched as they have become ever more isolated from regional urban markets.[13]

In the view of most developmental economists, agribusiness has developed by becoming more capital intensive. Because the economic system is larger than agriculture, farm changes toward technological efficiency have diverted farm labor to solve problems in other parts of the economic system, such as transportation, housing, electronics, and now energy.[14] Underlying this argument is an assumption that "development" builds on investment in infrastructure.[15] In this view, social dislocations are economic costs. Those who are dislocated are assumed to be rational economic actors who find other niches in the economic system.

Using the same facts, some political economists have proposed quite a different explanation of the political-economic system.[16] The concentration of capital in the nation's 130 largest corporations, which control $1 trillion in assets—one-fourth of the holdings of the 2 million U.S. corporations—in large part determines the underdevelopment of rural regions. These corporations, located in great urban centers such as New York, Chicago, and Los Angeles, influence political decisions and market operations through their power of capitalization, their food-processing trusts, and their enormous energy industries. All of the major retailers, such as Kroger and Safeway, and the major energy corporations, such as Mobil, Texaco, and Exxon, are among the 130 giants and directly influence rural Western affairs.

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[10] U.S. Bureau of the Census, *Historical Statistics of the United States from Colonial Times to the Present* (Washington, D.C.: U.S. Government Printing Office, 1975).

[11] Lowry Nelson, *American Farm Life* (Cambridge, Mass.: Harvard University Press, 1954).

[12] President's National Advisory Commission on Rural Poverty, *The People Left Behind* (Washington, D.C.: U.S. Government Printing Office, 1967); Marian Lenzen, "The Lament of a Nebraska Farm Wife," *Los Angeles Times*, 19 March 1978, Part 5, p. 6.

[13] Joseph G. Jorgensen, *The Sun Dance Religion: Power for the Powerless* (Chicago: University of Chicago Press, 1972); U.S. Bureau of the Census, *Statistical Abstracts;* U.S. Bureau of the Census, *Historical Statistics.*

[14] Kenneth Boulding, Lecture on energy and world development to the Board of Directors of the Human Relations Area Files, New Haven, Conn., 2 April 1978.

[15] W. W. Rostow, *The Stages of Economic Growth: A Non-Communist Manifesto* (Cambridge, Eng.: Cambridge University Press, 1960).

Large food-processing trusts are beginning to control practically every aspect of food production and distribution through vertical integration. As of 1971, for example, Kroger was the fifth-largest retail operation in America. This company owned 1,500 markets, 430 drug stores, forty family food and drug centers, 150 delicatessens, fifteen meat-packing plants, one dairy farm, five milk plants, four bakeries, one sausage plant, one trucking fleet, regional warehouses, and a chicken farm capable of turning out 28 million broilers per year.[17]

Interlocking boards of directors provide horizontal links between corporations in different industries, as well as with financial institutions. The thirty largest industrial companies, twenty biggest banks, ten largest life-insurance companies, twenty largest utilities, twenty largest transportation companies, ten biggest diversifieds, and ten largest retailers have a total of 530 direct interlocks. There are over 12,000 indirect interlocks among these 130 corporations. In all, 123 of the 130 corporations connect with half of the other companies.[18] Under the Clayton Act of 1914, interlocking directorates are unlawful if they eliminate competition. The problem is quite clearly immense, and the economic and political power wielded by the corporations is, perhaps, beyond effective control.

In the rural West, the large corporations have grown at the expense of rural regions. The victories of the large corporations and food-processing trusts are due not only to modernization and the free market but also to federal and state policies. The federal government, lobbied and pressured by the large farm corporations and their organizations, such as the American Farm Bureau Federation, has aided the largest producers in many ways. Through 1970, grants to farmers comprised 52 percent of all federal subsidies.[19] Fully 65 percent of all farm subsidies in 1970—$5.5 billion—went to the top 10 percent of corporate farm earners. Several corporations in Texas and California received more than $1 million each in subsidies for several years. Federal farm policies for decades have also created planned markets in which the large producers could be reasonably assured of the prices they would receive for their crops before the crops were planted. Thus, supply and demand have not operated.[20] Moreover, federal and state governments conduct research programs and experimental agricultural stations, and the federal government has created multi-billion-dollar reclamation projects designed to deliver cheap water to farmers and reclaim nonprime agricultural land for farming.

Size, access to capital, and access to federal benefits have worked in favor of the largest producers. Between 1964 and 1974, farms grossing from $2,500 to $20,000 in annual sales have dropped from 78 percent to 53 percent of total farm sales, while those grossing over $100,000 have increased from 1.7 percent to 9 percent.[21] The effects of increased costs and shriveled returns for small operators in agribusiness have withered rural areas and dramatically reduced the political clout once wielded by small farmers.[22] The National Farmers Union has fashioned a spirited battle to maintain the small agricultural producer, but to little avail; Midwestern grain and dairy farmers have become increasingly aware of the political forces opposed to special benefits in their behalf. In April 1978, the National Farmers Union and other lobbies promoted farm legislation that would increase price supports so that small farmers grossing between $2,500 and $100,000 per year would be able to stay in business. This bill was opposed by President Carter, the American Farm Bureau Federation, large farm operators in California, the feed-lot and beef-packing industry, and the cotton textile industry. Family farmers comprise more than 25 percent of the voters in only five of the 435 House of Representatives districts. As a consequence, the House overwhelmingly defeated the bill by a vote of 268 to 150. Large-corporation interests prevailed.[23]

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[16] Paul Baran, *The Political Economy of Growth* (New York: Monthly Review Press, 1957); Immanuel Wallerstein, *The Modern World System: Capitalist Agriculture and the Origins of the European World Economy in the Sixteenth Century* (New York: Academic Press, 1974).

[17] Jorgensen, "A Century of Political Economic Effects."

[18] U.S. Congress, Senate, Committee on Governmental Affairs, *Study of Interlocking Directorates*, 95th Congress, 2nd session (Washington, D.C.: U.S. Government Printing Office, 1978); James L. Rowe, Jr., "Big Firms' Sharing of Directors Studied," *Los Angeles Times*, 23 April 1978, Part 1, p. 33.

[19] U.S. Bureau of the Census, *Historical Statistics*.

[20] Luther Tweeten, *Foundations of Farm Policy* (Lincoln: University of Nebraska Press, 1970).

[21] U.S. Bureau of the Census, *Statistical Abstracts*.

[22] President's National Advisory Commission on Rural Poverty.

[23] Penny Girard and Robert Barkdoll, "House Kills Farm Bill in Victory for Carter," *Los Angeles Times*, 13 April 1978, Part 1, p. 20; Norman Kempster and Penny Girard, "Farmers, Clout Fading, Vow to Defeat Foes of Bill," *Los Angeles Times*, 14 April 1978, Part 1, p. 12; W. B. Rood and Bill Boyarsky, "Farmers Defy Old Rules of State Politics," *Los Angeles Times*, 26 April 1978,

The contraction of rural populations and their economic basis, caused by the capitalist development and corporate control of agriculture, has ripened these regions for the expropriation and development of energy resources, often regardless of the enormous costs in water, infrastructure, and social disarray that such development brings to the rural, arid West. Small farmers and rural residents of nucleated villages in Utah, New Mexico, Wyoming, Arizona, Colorado, and Idaho have accepted, even pursued, the development of energy resources, for it holds out the prospect of jobs, community revitalization, and a way to keep their children at home. Only on the High Plains of Montana and northeastern Wyoming and in a few other sparsely populated, nonnucleated ranching regions have local residents registered opposition to large-scale energy projects.

Later we shall describe the effects these projects have had on Anglo and Indian populations in the West. Before doing so, however, it is necessary to present a wider framework for understanding the relationship between corporate development and rural underdevelopment.

## The Metropolis-Satellite Economy

Elsewhere, the senior author of this article has argued that the "metropolis-satellite" concept of economic development and underdevelopment, with roots in Paul Baran's analysis of political-economic growth and Andre Gunder Frank's discussion of exchange relations in the development of Latin American underdevelopment, accounts for the underdevelopment of North American Indian economies.[24] Political economists debate the explanatory power of the metropolis-satellite model, much as they debate Lenin's model of imperialism, Rostow's model of the stages of economic growth, and Wallerstein's model of world economic systems.[25] All of these models, and many more advanced by political economists, attempt to account for the manner in which economies have developed in various societies. In general, the capitalist models, of which Rostow's is an example, provide road maps for success in a capitalist market world; the models critical of capitalism, such as the "metropolis-satellite" formulation, provide road maps that show why capitalist success for undeveloped economies cannot be reached because capitalist development inevitably entails expropriation and exploitation. Thus, capitalism inevitably leads toward world underdevelopment rather than away from it.

The metropolis and satellite are interdependent and are both nexus and locus. The metropolis is nexus in that it is the center of concentration of economic and political power. The satellite, too, is nexus, but it is the periphery to the center. The satellite provides resources and labor for the metropolis and consumes the goods that are owned and produced by the metropolis, but it does not share proportionately in the surpluses from its own area, nor does it concentrate political and economic power.

The metropolis and satellite are also both loci. By and large metropolises are cities, whereas the satellites are rural towns and rural areas. Yet metropolis-satellite is not synonymous with urban-rural. Urban, for instance, implies a city, a locational unit filled with people; metropolis does not. It should be clear, however, that urban and metropolis are neither completely independent nor completely identical constructs, because the ruling class of the metropolis, its corporations, its research houses, and its liquid capital are located in great urban areas. On the other hand, while the economic and political power of the ruling class of the metropolis has continued to grow during the past twenty years, the centers of the great urban areas have withered. Whereas urban areas have generally grown in their number of inhabitants, cities—specifically the old city centers—have generally lost population.

Indeed, since World War II the urban centers have become economic satellites exploited by, and underconsuming the products of, the metropolis. The old core areas of cities have shrunk in their economic affluence, political influence, social services, and quality of life. Ghettos in these areas have grown through natural increase and the migration of the rural poor; unemployment has increased; and rebellion and repression have become more characteristic of the largest cities in the United States. By the late 1970s, rebellion seldom attained the scale reached in the late 1960s, but conflicts between national minorities and the dominant society kept surfacing. Chicanos protested police brutality; Indians battled for their sovereignty; and undocumented workers have been whipsawed by capitalists in quest of profits and by angry taxpayers.

The metropolis-satellite concept does not reflect a simple two-member relationship where one locus is metropolis and the other is satellite. Rather, it deals with a pyramidal structure of political and economic power positions—the nexus—that have a discernible ordering in space—the locus. The power positions are many, but finite, and areas that concentrate less political and economic power are satellite to those that

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Part 1, p. 25; Joseph G. Jorgensen, "The Agribusiness Lobby," *Anthropology Resource Center Newsletter*, 2, No. 2 (1978), 2.

[24] Joseph G. Jorgensen, "Indians and the Metropolis," in *The American Indian in Urban Society*, ed. Jack O. Waddell and O. Michael Watson (Boston: Little, Brown, 1971); Jorgensen, *The Sun Dance Religion*; Baran; Andre Gunder Frank, *Capitalism and Underdevelopment in Latin America* (New York: Monthly Review Press, 1967).

[25] V. I. Lenin, "Imperialism: The Highest Stage of Capitalism," in *Collected Works of V. I. Lenin* (London: Lawrence and Wisehart, 1964), XXII; Rostow; Wallerstein.

concentrate more. The position of any unit within the pyramid, envisaged as spatial and power relations, is described in relation to other points in the pyramid. So the small, rural town of Nephi in central Utah is satellite to Salt Lake City, the largest regional trade center, but it is metropolis to Levan, Mona, and Star, which are smaller hamlets nearby. Among these lower-level and smaller units, exchange, rather than production, often dominates metropolis-satellite relations. Yet Salt Lake City, which is metropolis to much of the intermountain West as a center in banking, finance, and trade, is itself satellite to the center of Western finance, industry, and power in southern California. But in turn, New York City dominates the nation through its financial houses, multinational corporations, and the owner of these structures, the ruling class, with its enormous political influence.

This pyramidal structure, in which practically all nations, regions within nations, and urban areas are metropolises in some relations and satellites in others, is a product of capitalist expropriation of surplus value created by producers and the historical tendency of capitalism simultaneously to create both development and underdevelopment. The contradiction in the mode of production whereby the metropolis, for its own growth, expropriates the surpluses of the satellites, is the key to understanding economic trends in the rural United States. Contradictions in exchange also are important because of their significance in agribusiness.

Paradoxically, the metropolis has grown at the expense of the satellites, causing the withering of both urban cores and rural areas. As the metropolis expropriates the resources of the satellites and appropriates them for its own growth, as labor exploitation increases and the satellites share less of the surplus from their areas, as technological advances reduce the labor-time required to produce goods from the land or expropriate resources from mines, the people who do not exercise ownership or control over the means of production, or whose resources are meager, are less and less able to manage. These people, whether they are small businessmen or workers, increasingly become consumers with little access to strategic resources or the loci of power. The poor and the displaced selectively migrate from rural areas to the decaying urban cores. The upwardly mobile small businessmen from rural areas, including farmers and their educated children, also migrate to urban areas, joining the middle-income families in the suburbs. Welfare schemes and transfer payments heal the most gaping wounds, but these programs are resented by the taxpayers who must support them.

The metropolis-satellite economy is a single, integrated structure. The former grows at the expense of the latter, and the federal government aids the process by enacting laws that provide massive benefits and maintain privileges for the metropolis, while providing minuscule welfare payments for the poverty-stricken sectors of society. Although it is contradictory, the capitalist development of the metropolis has caused the underdevelopment of the satellites.

## Development to Underdevelopment for Rural Anglos

It should be evident that Anglos occupy niches in the rural areas and maintain satellite relations to the metropolises that have been transformed with increasing speed over the past six decades. Millions of rural farmers and miners, the former self-sufficient and the latter gainfully employed sixty years ago, have been displaced by the combined forces of economic concentration, capitalization, and technological change. Rural areas have been gradually transformed from developed and economically self-sufficient regions in a capitalist economy to underdeveloped areas. This is not to say that agribusiness or the energy industry has withered. But rural residents exercise less and less control over production and resources in their own regions and have been forced to move to cities or become small shopkeepers or wage earners. Most inhabitants of rural regions have lost out in the competition with corporations and the federal government, and their small businesses, such as canneries, creameries, and bakeries, have been replaced by larger corporate operations many miles away.

The vast quantities of energy resources in the Mountain West and the High Plains and the pell-mell rush by energy corporations to extract them have held out prospects of economic and social recovery for rural residents.[26] But where energy projects have been located, at places like Gillette, Rock Springs, and Green River, Wyoming, Colstrip, Montana, Craig, Colorado, and Farmington, New Mexico, boom-town growth has revealed just how empty the promise of energy development has been. The ownership and corporate offices of the mines, wells, pump stations, mills, and transportation systems are always located outside the resource and plant areas, and most often in the major financial centers of the United States. The energy is delivered to cities many hundreds of miles away, while land blight, increased water scarcity, and lessened air quality become features of the energy-rich resource areas. During the development stage, jobs are temporary, most often awarded to transient, skilled employees who leave at the termination of the construction phase. Local infrastructures—sewers, roads, lighting systems, schools, teachers, police, fire protection, and the like—are grossly inadequate, as are retail stores, recreation facilities, and other community services. The transients, who swell the towns to five, ten, even twenty times their preboom sizes, develop few affinities for their trailer-park villages and tend to purchase most goods, groceries, and relaxation in larger distant cities.[27]

Divorces, child and wife beatings, desertions, and related phenomena increase in boom towns. Elected officials resign from public office. Large infrastructure improvements are begun at property-owner and taxpayer expense. Schools are built, sewers are laid, roads are cut, recreation facilities are developed, fire and police protection is expanded. The corporations responsible for the energy developments assume none of these costs; rather, they are borne by residents through bonds liquidated by local property taxes.

Thus, the boom phenomenon saddles long-term residents with financial costs during and after the boom period, while the transients and the corporations are only modestly affected. The disruption of family life, local mores, local government, education, and the quality of life is enormous. "Development" benefits the capital holdings and profitability of Exxon, AMAX, Westmoreland, Union Pacific, and other energy giants, rather than the well-being of local residents. A modestly close look at any industrialized rural region, such as Green River, Wyoming, or Roosevelt, Utah, shows that local residents gain little from the resources that are extracted from their region, in either direct payments from industrial jobs or indirect payments through "multiplier effects." The profits accrue to the corporations, and the energy is delivered to distant urban dwellers.

Despite all of these destructive consequences of the extraction and conversion of energy resources, as Ronald L. Little points out in his essay in this volume, the residents of moribund rural agricultural regions in Utah, Montana, Arizona, and other Western states welcome new projects with optimism. They believe that their economies will boom again, their children will return home, and their own fortunes will improve. On the other hand, as Lovejoy has pointed out, local residents of these towns deemphasize the potential disadvantages of energy projects.[28] In 1976, a proposed 3,000-megawatt coal-fired plant near the Kaiparowits Plateau in southern Utah, planned by a consortium including Southern California Edison and San Diego Gas and Electric to deliver electricity to southern California, was canceled because environmentalists successfully challenged the damage to air quality and the national parks and monuments in the region that would result from plant operation. Local residents were furious and are still furious because they envision a new 13,000-resident town spending $50 million annually in local shops.[29] Unfortunately, it doesn't work that way.

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[26] Ronald L. Little, "Rural Industrialization: The Four Corners Region," in *Social Implications of Energy Scarcity: Social and Technological Priorities in Steady State and Constricting Systems*, ed. Lewis Carter and Louis Gray (Pullman: Washington State University, Department of Sociology and Social Research, 1975); Little, "Some Social Consequences of Boom Towns," *North Dakota Law Review*, 53, No. 3 (1977), 401–425; Stephen Lovejoy, "Local Perceptions of Energy Development: The Case of Kaiparowits Plateau," *Lake Powell Research Project Bulletin*, No. 62 (Los Angeles: University of California, Los Angeles, Institute of Geophysics and Planetary Physics, 1977).

[27] John S. Gilmore, "Boom Towns May Hinder Energy Resource Development," *Science*, 191 (1976), 535–540; Little, "Some Social Consequences of Boom Towns."

[28] Lovejoy.

It is ironic that rural Anglos, who sought to make their way in the vastness of the American frontier as free-enterprise-loving capitalists, and who used expropriated Indian land on which to establish their operations, succumbed to capitalist political-economic forces. They were pushed from development to underdevelopment. Indians, on the other hand, whose histories have been very different from those of rural Anglos, did not seek individual or independent family success in a capitalist economy. They did not compete successfully as capitalists, nor did they accept the potential harm to the environment that capitalism would bring. Rather, they were *undeveloped* at contact and subsequently were defeated, corralled, and guided into underdevelopment. A brief assessment of the Indian niche within the satellite will make the differences between Indian and non-Indian clear.[30]

## Undevelopment to Underdevelopment for American Indians

To employ the terms used by Chief Justice John Marshall in his nineteenth-century description of the relations between Indian tribes and the federal government, reservation Indians occupy "domestic dependent" niches in rural areas.[31] The term "domestic dependent" is used here, rather than "colonial," "internal colonial," "neocolonial," or some other variant, to denote the peculiar form of internal domestic colonialism in the United States that distinguishes Indians and Eskimos, their resources, and their political niche from all other United States citizens and dominated peoples in U.S. trust territories. Domestic dependency is a special form of domination that is both political and economic. It began with the creation of the United States and the concurrent appropriation by the federal government of control over American Indians, and it has persisted for over two centuries. The creation of reservation subjugation has intensified the condition.

Originally, reservation Indians were not citizens of the United States but were treated as members of conquered, dependent, domestic nations with whom the federal government alone could deal, primarily through treaties. This special relationship to the federal government has persisted in the form of federal functionaries who exercise powers over reservation Indian affairs that are not exercised over the lives of any other citizens. In the past half century, tribal governments have been chartered by Congress and supervised by the Bureau of Indian Affairs (BIA), although the BIA assumed supervision of Indian affairs some ninety years before tribal governments were chartered and eighty years before the Indian Citizenship Act was passed. The BIA is an arm of the Department of the Interior that manages the reservations, overseeing, among other things, Indian lands, leasing, and individual Indian financial accounts. The BIA, in turn, is supervised by the Secretary of the Interior, who can make final decisions on practically all Indian affairs. The House Committee on Interior and Insular Affairs makes critical decisions by approving the BIA budget and in some instances even approving line items in tribal budgets and the expenditures of tribal funds by the federal treasury. Aside from the special forms of domination, Indians, in many complex ways, are also subjects of local and state governments.

Domestic dependency is not characterized simply by special forms of political domination, although political subjugation within the metropolis-satellite economy is the critical part of its definition. Political-economic subjugation of reservation Indians has had dire consequences as capitalist democracy has developed in the United States. The rapid development of the metropolis and urban areas since the mid-nineteenth century has brought severe damage to traditional Indian cultures and, in terms of status and self-esteem, to Indian personalities. Poverty, as measured in lack of access to strategic resources, unfavorable distribution of surpluses from Indian regions, unemployment, poor housing and health, and decline in general welfare, is a second result of metropolitan development. Finally, the depletion of Indian populations through warfare, the dissolution of aboriginal polities, loss of self-direction, lack of access to the locus of political power, the general denial of U.S. citizenship until 1924, and the power of the BIA, the Secretary of the Interior, and the House Committee on Interior and Insular Affairs over Indians are perhaps the most bitter legacies of the development of the West.

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[29] Paul Rolly, "Kaiparowits Demise Still Rankling Residents of Kanab," *Salt Lake Tribune*, 31 July 1977, Part D, page 11.

[30] For a full analysis of Indian underdevelopment and its causes, see Jorgensen, "A Century of Political Economic Effects." See also Jean Nordstrom, James P. Boggs, Nancy J. Owens, and JoAnn Sooktis, *Social, Cultural, and Economic Investigations*, Vol. I of *The Northern Cheyenne Tribe and Energy Development in Southeastern Montana* (Lame Deer, Mont.: Northern Cheyenne Research Project, 1977); "Preliminary Survey Results: Attitudes towards Existing Developments," *Shiprock Research Center Newsletter*, March 1976; G. Mark Schoeple, Ken Begashay, and Phil Reno, *A Study of Navajo Perception of the Impact of Environmental Changes Relating to Energy Resource Development*, MS (Shiprock, N.M.: Navajo Community College, 1978).

[31] Cherokee Nation v. Georgia, 5 Peters 1 (1831).

The domestic dependency of American Indian tribes is analogous to colonial subjugation, although subjugated native cultures in European-dominated colonies did not have the power to sign treaties. Yet, as with its colonial counterparts, the domestic dependent Indian nations within America's capitalist democracy have possessed many rights since the 1920s. The United States does not force all subject people to live in perpetual poverty and oppression, even though pass laws and federal troops once restricted Indians to their reserves. Just as a few natives from the former colonial states of Africa and Asia could be educated in European universities, acquire some capital and open shops in Europe or in their colonial states, or enter the colonial service, so some U.S. Indians can move from reservations, gain university educations, and become popular authors or high-ranking officials in the BIA.

Although Indians seek individual "successes" such as these, they are few and far between. Individual successes are possible, but their probability is very low; tribal or group successes, on the other hand, are highly improbable. Success, in the individualist terms consonant with the Protestant ethic, comes to some Indians who sever their ties with their wide network of kin and Indian friends and leave the tribal life behind. Tribes, however, by the nature of their constitutions, charters, and relations to the Department of the Interior, find it difficult to be self-directing, control their own resources, or provide sustenance for all of their members. Although we have used the term "domestic dependency" for this peculiar form of domination of a set of national minorities within a capitalist democracy, the explanation for the suffering of Indian reservations can largely be found in the mechanics of the metropolis-satellite political economy. Furthermore, overt or implied racism on the part of the dominant toward the dominated seems always to have been both partial cause and effect of domestic dependency.

As the trustee for Indians, the Secretary of the Interior and the BIA have overseen the leasing of Indian lands and resources to large energy corporations. In practically all instances until 1976, these leases were let at fixed prices and were valid as long as the lessee produced. There were no escalator clauses for royalty rates to take account of increases in mineral prices. Indians were not allowed to tax the corporations that extracted resources from their lands, nor did the BIA encourage them to develop their own energy industries.

During the 1960s, under prodding from the BIA, the Secretary of the Interior, state governments, and corporations, the Hopi, Navajo, Crow, and Northern Cheyenne tribal governments gave their uninformed consent for the extraction of resources from their reservations. The consent of these tribal governments was uninformed because tribal officers did not know what effects energy developments might have on their communities and environments. They were not apprised of the activities of these corporations in other areas, the market value of their resources, strategies for negotiating more favorable contracts, or the long-term implications of the contracts they signed. Most importantly, rank-and-file Indians knew even less about these agreements than tribal officials.

In 1974, for instance, the Navajo Tribe negotiated a six-year uranium-prospecting permit with the Exxon Corporation. The Navajos who resided in the uranium-exploration region and who would be relocated when uranium extraction began were not asked whether or not they desired to be moved. Nor were they asked whether or not they favored Exxon's extracting uranium ore from under the houses they lived in and from under the vegetation that sustained their sheep. Neither the BIA nor the Secretary of the Interior sought information on Navajo attitudes about their environment; their beliefs about sickness and health, relations among the gods, rituals, kinship groups, and land; the importance of family households and their functions in Indian society; and a hundred other pertinent questions. The BIA should have gathered and analyzed such information before making any recommendations about the Navajo-Exxon lease. In this case, as in so many others, the federal government did not adequately inform Indians about the consequences of their actions in signing contracts and did not learn what Indians desired.

Native Americans' need for information in dealing with energy corporations and the federal government is a common theme of the articles in this volume. Richard O. Clemmer's splendid account of the battle by Hopi traditionalists to save Black Mesa demonstrates how little the Hopi knew about the lease agreement to strip coal from Black Mesa and pump water from the ancient aquifer below it. In showing how Hopi traditionalists conducted, and lost, their battles with their duly elected tribal government, the BIA, the Secretary of the Interior, and the Peabody Coal Company, he also informs us of his activities, especially how he informed Hopis of what he knew about the Black Mesa coal operation and how he sought to use his skills to help Hopi traditionalists in their quest to save Black Mesa from Peabody's shovels.

In contrast, the articles by Lynn A. Robbins and Nancy J. Owens illustrate the progress that the Navajo and Northern Cheyenne tribes have made in their understanding and negotiation of energy agreements. Robbins describes how Navajos have responded to coal, uranium, and oil developments by forming labor unions, organizing local protest, and creating new tribal government agencies to deal with growth problems. He focuses particular attention on the role of the Shiprock Research Center in providing information to local residents and tribal leaders about the social and environmental effects of energy projects.

Nancy Owens, a researcher for the Northern Cheyenne Research Project, raises the question of whether or not tribes can control energy development. The Northern Cheyenne suspended coal-mining leases in 1974 and are studying alternative development schemes for the reservation, including the possibility of forbidding all nontribal coal mining on their lands. More recently, they have obtained Class I air-quality status from the U.S. Environmental Protection Agency so that the reservation will not be degraded by pollution from the proposed Colstrip 3 and 4 electrical-generating plants. Owens suggests that jurisdictional, financial, and managerial control are prerequisites for maintaining tribal sovereignty over energy resources. Like Robbins, however, Owens concludes by questioning whether or not the development of a self-sufficient reservation economy is compatible with large-scale corporate energy extraction.

## The Responsibility of Social Science

The articles in this volume lead us to ask what social science can contribute to fulfilling the information needs of Native American and Anglo communities in the West. In the turbulent 1960s, Noam Chomsky advised intellectuals that they possessed special skills and knowledge that should be used to benefit humanity.[32] Chomsky, of course, was writing during the period in which intellectuals agonized about whether or not to mobilize their professional associations and universities, two ostensibly apolitical organizations, to battle the propaganda and policies of the federal government and help bring the Southeast Asian war to a halt. Although many scholars were wary of the politicization of universities and professional associations, even more were unaware of the implicit political nature of their research and teaching. In the late 1960s, several leading social-science associations received petitions from some of their members to establish ethical codes for research conducted by all their members. These were frontal assaults on the implicit politics of the academy, as well as the explicit politics of secret research on counterinsurgency and chemical and biological warfare.

Professional canons of ethics were subsequently established by the American Psychological Association, the American Political Science Association, the American Sociological Association, and the American Anthropological Association (AAA). The senior author is most familiar with the ethical guidelines of the American Anthropological Association and the furor that was created when he and Eric R. Wolf, members of the AAA Ethics Committee, declared that a considerable portion of the research conducted by American social scientists in Thailand and the activities of these same social scientists as consultants to the United States government violated the letter and spirit of the AAA's Statement on Ethics.[33]

The Thailand episode focused on counterinsurgency research and the ethics of passing on confidential information to the United States government without gaining the informed consent of the people who provided the information. There were more questions involved, of course, and the entire batch of them generated a lively and often acrimonious debate. These questions ranged from the meaning of academic freedom to the conditions under which an anthropologist should provide privileged information and special skills to aid the United States government.

Warfare-related research questions were paramount in the 1960s, but the questions of political and economic power and the powerlessness of American minorities and Third World peoples also became important for some social scientists. Not only were domestic minorities and neocolonies like the Micronesian Trust Territory being manipulated by political and economic forces they did not control, but they were forced to cope with these forces without adequate information.

A decade has not changed the senior author's concurrence with Chomsky that intellectuals have the responsibility, indeed the obligation, to use their special information and skills for humanity.[34] Today, neither reservation Indians nor local whites in the West have been adequately informed about the potential effects of energy developments on their lands and lives. There is a considerable need for social scientists to analyze the potential personal, social, economic, and political effects of energy developments and to make this information freely available. Under the National Environmental Policy Act (NEPA) of 1969, impact statements must be issued to assess the probable environmental effects of large-scale development projects. Funding for environmental impact statements is available through the federal or state agencies or corporations that seek to alter the environment. Thus, funding for these impact statements can provide social scientists with the means to conduct critical research.

Unfortunately, most environmental impact statements that we have read do not address questions

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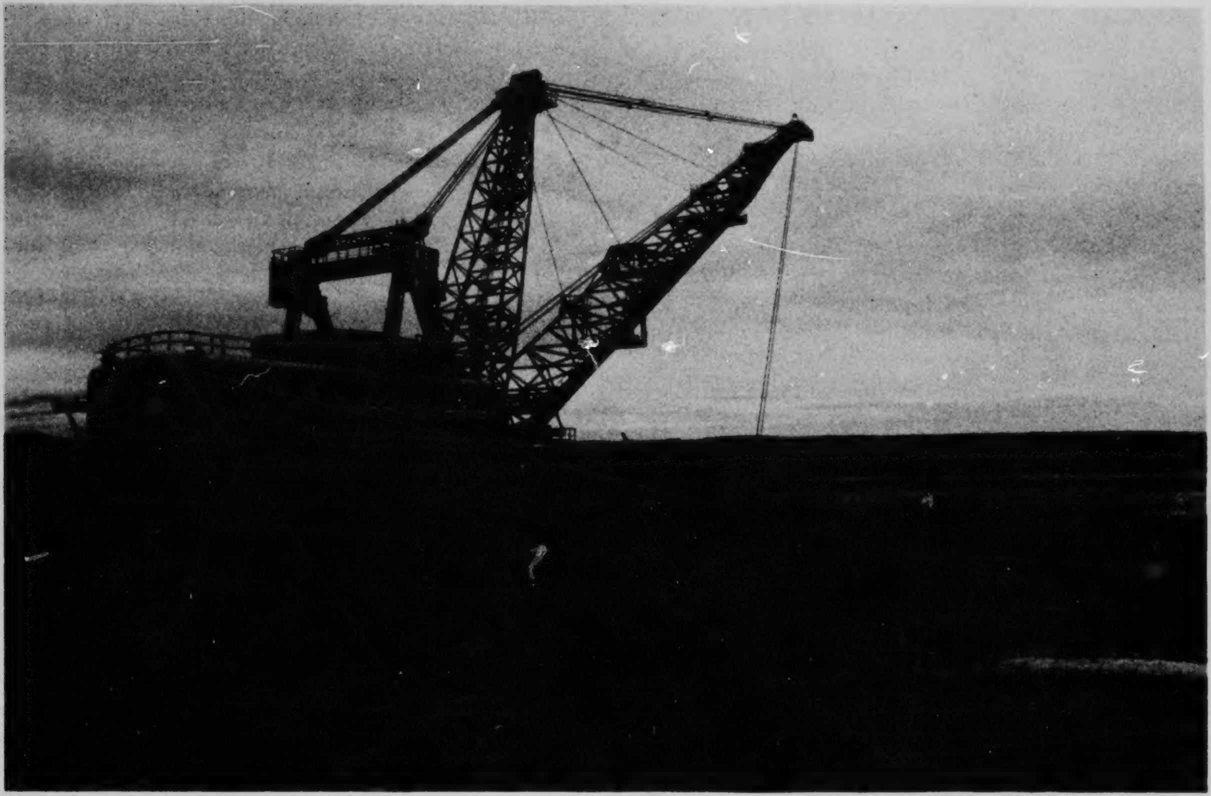
[32] Noam Chomsky, "The Responsibility of Intellectuals," *New York Review of Books*, 23 February 1966, pp. 16–26.

[33] Eric R. Wolf and Joseph G. Jorgensen, "Anthropology on the Warpath in Thailand," *New York Review of Books*, 19 November 1970, pp. 25–35.

[34] Joseph G. Jorgensen, "On Ethics and Anthropology," *Current Anthropology*, 12 (1971), 321–334, 353–356.



about the fabric of culture that are most important to daily life in rural areas. Indeed, local residents have not been involved in the planning phases of energy developments, and they have not been accurately apprised of human, social, fiscal, and environmental costs in the development of energy resources. As Ronald Little points out in this volume, decisions regarding the immediate and future utilization of energy reserves have been based mainly upon technological criteria and corporate economic concerns, while questions of social consequences have been largely excluded from consideration.

Even NEPA, which requires the evaluation of social impacts, contains language that implies an economic cost-benefit analysis of them. Cost-benefit analysis is a standard tool of capitalist development economics that transforms all costs into dollars. The significance of focusing on a cost-benefit analysis is that household economics, local economies, community structure, politics, religion, history, and the expectations of local residents receive little analysis. The result is a tacit shift from social to economic and technological considerations, and from the local communities and regions to metropolitan areas and the operations of national and multinational corporations.

We suggest that all decisions regarding the development of energy resources must ultimately be evaluated on the basis of the consequences for human beings and human communities, and not solely on the basis of economic and technological feasibility. If the human and community consequences must be balanced against economic advantages within the framework of traditional cost-benefit analysis, the scale is tipped in favor of straightforward industrial developments, with little concern for social factors. As long as costs and benefits do not account for social, political, and religious concerns and the attitudes and expectations of the inhabitants of project areas, the utility curve is meaningless. It is not enough to convert all social measures into economic terms.

Some social scientists, such as those who have offered essays here, have sought to inform Indians and local whites about the impacts of energy developments on their economies and cultures. Yet, we have heard other social scientists who have conducted environmental impact research argue that only industry and the appropriate government agencies—those that fund the research—need be apprised of research results. At a session of the 1978 annual conference of the Western Social Science Association, one social scientist announced to his colleagues that social-science research into environmental impacts had only one real benefit: to provide financial support for the training of graduate students. In particular, he suggested that graduate students could learn basic research methodologies, including the calculation of standard deviations, from such research.

Surely there is more to contemporary energy-development research in rural America than projecting utility curves for corporations through cost-benefit analysis or training graduate students to calculate standard deviations. The essays in this volume by Richard Clemmer, Ronald Little, Nancy Owens, and Lynn Robbins are a first step in informing social scientists about the ways in which Indians and whites have been affected by energy developments. But their essays and their personal actions as social scientists and individual citizens go far beyond conveying information about energy developments in the rural West to the social-science community. Indeed, as intellectuals, social scientists, and citizens, they have used their knowledge to inform the people that they have studied, through tribal publications, open meetings, speeches, seminars for tribal officials, and public forums. When asked by their informants, they have even suggested plans for action in dealing with corporations, state governments, the federal government, and in the Hopi case, the tribal government, that have provided alternatives to current policies.

Rapacious development has long characterized the history of the western United States. Whether at the hands of railroads, agribusiness, mining companies, or timber corporations, development has brought immense human suffering and environmental degradation to both Native American and Anglo communities. Today, many of those communities are skeptical of the promises of energy corporations and government officials and are seeking alternative models for revitalizing rural areas. Social scientists, if they so choose, can collaborate with Western tribes and communities in formulating and promoting these models. We hope that the essays in this volume will give some insight into how we might begin.

# Black Mesa and the Hopi

*Richard O. Clemmer*

For environmentalists who rode the initial surge of interest in ecology mirrored in the first Earth Day in 1970, the words "Black Mesa" recall one of their first clashes with energy corporations. For Hopis, "Black Mesa" recalls how the expanding American political economy affected their land and life, and how the basic tenets of that life were swallowed up by the bureaucratic behemoth of the law.

The Black Mesa issue, which came to public attention in 1970, revolved around two leases with Peabody Coal Company on Hopi and Navajo lands in northeastern Arizona. One lease, signed in 1964, gave Peabody the right to strip mine 40,000 acres on the Navajo reservation. The other lease, signed in 1966, gave Peabody the right to strip mine 25,000 acres in the Joint Use Area of the Hopi reservation, a territory shared by Navajos and Hopis.[1] Peabody signed an additional lease for water used in processing the coal and subcontracted Black Mesa Pipeline Company to build a water transport system for the coal. A coal-carrying railroad was planned, and Arizona Public Service Company constructed a power plant—one of two burning Black Mesa coal—at Lake Powell.

Environmental concerns were very much at stake in the Black Mesa project: degradation of air and land quality and misuse of precious water and land resources. Congressman Ken Hechler of West Virginia, a supporter of strict regulation of strip mining, described its effects as follows:

> From the tribal lands of the Hopi and Navajo to the rugged hills of Appalachia, giant gouging machines are ruthlessly ravaging the land to get at valuable seams of coal close to the surface. When a supercolossus . . . earthmover . . . picks up 325 tons at one gulp, a jumble of topsoil, rocks, small trees, flora, fauna and wildlife habitat are chewed up and spewed out with awesome results. The scalping and decapitation give the land the look of the surface of the moon.[2]

The social, cultural, and political effects of Black Mesa were less obvious. The most immediate issue was what the Hopis themselves knew: there had been no open hearings, no community discussion, no administrative disclosures by either their own tribal government or the Bureau of Indian Affairs (BIA). Indians had lost control of 65,000 acres of land, and not more than a handful of people appeared to know anything about it.

How could Peabody have gotten away with it? Thousands of acres of land, billions of gallons of water, hundreds of thousands of tons of coal, millions of dollars; and there had been a virtual blackout of news. As an anthropologist, I became the Hopis' first source of complete information about the Black Mesa strip mine. That was in June 1970.

## Methodology

Since I was intimately involved in the first efforts by Hopis and others to piece together information about mining on Black Mesa, much of the following narrative is first person. At times, it resembles a detective story. In fact, it is a story of detection, and I have given the reader an account that is as faithful as possible to the events and activities through which that detection was accomplished. The story of the detection exposes the attempts by Peabody, WEST Associates, the Hopi tribal government, and some U.S. government officials to derail opposition and soothe adverse public opinion. Interwoven with this personal narrative are the facts and figures about the mining, power plants, and lease provisions. These are important, since they quanitfy and document the damaging effects of mining and power-plant operations. However, a tabular recitation can be tedious, and for this reason I have embedded them in subjective narrative.

The historical background should, customarily, follow the brief introduction to Hopi culture. Again, I placed this discussion where historical questions are most logically raised on the basis of knowledge about mining on Black Mesa. This format does not follow the usual anthropological style. But it does give the reader a multidimensional view on a short period of Hopi history and on certain social processes common to many Indian reservations.

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[1] The Joint Use Area has since been divided into exlcusive Hopi and Navajo surface sections and is now shared only for mineral exploration and exploitation.

[2] Ken Hechler, "Strip Mining: A Clear and Present Danger," in *Myths and Technofantasies* (Santa Fe: Black Mesa Defense Fund, 1971), p. 26.

My participation in the efforts to "stop Peabody" led me to this observation: neither American justice nor American democracy provided a forum for raising and adjudicating the Black Mesa issues without assuming the destruction of Hopi culture. Further, efforts to stop Peabody clearly demonstrate the subordinate position to which a profit-oriented political economy reduces a culture and society that gets in its way. The events on Black Mesa exposed government and corporate manipulation to public view, but not to public remedy.

The Hopi are unusual in producing a political movement that influenced large numbers of Americans whose cultural ethics had been based in political and economic processes whose loci are far removed from the reservation and are alien to Hopis. This essay will discuss the way in which the Hopis saw the issues at Black Mesa, discovered the details of the mining operations, and organized opposition to Peabody. An introduction to Hopi culture and a short history of U.S.-Hopi relations will show how the U.S. government had squeezed the Hopi people into a contradictory and alienated position vis-à-vis their own culture.

## Anthropology and Hopi Culture

The Hopi occupy three mesas south and east of the Grand Canyon. Their small villages have increased in number from seven to thirteen since the Hopi reservation was established in 1882. During this time population has increased threefold, to about 7,000. The Hopis are predominately a matrilineal people. Land use, political and religious leadership, and marriage practices are integrated through a structure of family, village, and religious groups. Within each village, a number of clans may be represented, and there may be anywhere from one to fourteen religious sodalities. The sodalities are associations of people, for the most part men, who unite for a common goal which is, in their minds, just as important as personal or family matters. Each sodality has its own religious ceremony, owned by a particular clan, that it is supposed to perform at a certain time of year.

Religious leaders are also political leaders. In Hopi belief, the religious symbolism expressed in each ritual is intricately linked to the proper arrangement of energy forces required to nurse Hopi crops of corn, beans, squash, melons, and fruit trees from the sandy desert soil. Almost all Hopis, including the small number of Christian and Mormon converts, participate in at least one ceremony each year.

Hopis consider themselves primarily agriculturalists, and all ceremonies are directed toward insuring proper conditions of land and climate for good crops. Some men have small sheep and cattle herds, and today many Hopi families derive most of their income from wage labor or craft sales. Land, however, is regarded as the basis of Hopi sovereignty and cultural identity. The strongly egalitarian constellation of statuses and roles in Hopi life is based on the integration of myth, behavior, land, and subsistence. Despite her bias as a government anthropologist, Laura Thompson saw in Hopi culture an ideally patterned relationship between human activity and environmental processes. The tranquility of this relationship is achieved by balancing an intensity of purpose and behavior with an unfolding of life processes in a land of ephemeral resources.[3]

My involvement with the Hopi developed from an interest in their ability to circumvent the grandiose plans that the U.S. government has been foisting upon them since the 1880s. This interest was initially inspired by Stan Steiner's *The New Indians*.[4] From graduate studies at the University of Illinois, I had learned that there was a movement among the Hopi not only to resist the grandiose, but also to elevate the mundane to a level at which culture becomes inspirational, not merely functional. That inspirational level, at which symbols and action motivate the individual in the face of adversity, has been loosely described as a "revitalization movement."[5]

An important part of any revitalization movement is oral tradition. Oral tradition provides the symbolic context for revivifying a culture's relevance in the midst of contemporary events that threaten the people and their culture. In the summer of 1968, I received an $800 grant from the Doris Duke Project in Oral History to study the Hopi revitalization movement. At New Oraibi, below Third Mesa, I was graciously received and rented a small one-room house for $34 a month. I later learned that my small summer grant was more than half the Hopi per capita income for an entire year.[6]

Later that summer, I attended a meeting in Hotevilla, another Third Mesa village about four miles from Oraibi. At that meeting, the leaders of religious sodalities from three mesas asked me four important questions. What was my religion? What were my ethnic origins? What was I doing there? How did I think I could help them? I answered the last question with a commitment that was to take on significance in 1970. I said that I was interested in their opinions and their points of view; that I would write them down; and that I would disseminate the writings. I also said I was interested in knowing what kinds of things *they* were interested in knowing, as well as what they were saying, and that I would furnish them with information that would be useful to them, if I had it or could get it.

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[3] Laura Thompson and Alice Joseph, *The Hopi Way* (Chicago: University of Chicago Press, 1944).

[4] Stan Steiner, *The New Indians* (New York: Harper and Row, 1968).

[5] Anthony F. C. Wallace, "Revitalization Movements," *American Anthropologist*, 58 (1956), 264–281.

[6] Stephen Kunitz, "Fertility, Mortality, and Social Organization," *Human-Biology*, 48 (1976), 361–377.

In the summer of 1969, with another oral-history grant, I returned to the Hopi reservation. Halfway through the summer I met Grant Foster, an investigative journalist from Colorado, who planned to write a book on the Hopi. Foster had heard something about a huge coal mine nearby, at a place called Black Mesa, and plans for a lot more: new towns for the Southwest, allocations of water from the Colorado River, and a complex of energy industries stretching from southern Utah to the California border. Since Hopi oral tradition includes strong elements of national destiny and a place for the "white man" in Hopi life, I thought it would be appropriate to find out more about these grandiose plans. I thought the Hopi might be interested.

### Investigation

Thomas Banyacya, an Oraibi man who had been a spokesman and interpreter for political leaders on Second and Third Mesas for twenty years, had also heard about these plans. He had obtained a report of the Four Corners Regional Commission, which had contracted Westinghouse Electric Corporation to study the feasibility of large-scale economic development in the Southwest. The report discussed tourism, new population centers, new roads, industry, and energy development.[7] Thomas Banyacya and his wife Fermina thought the plans looked dangerous.

On trips to the BIA office in Keams Canyon, I found a group of unimaginative and ignorant bureaucrats with little knowledge or understanding of Hopi life. Only one man knew anything about the Westinghouse study or how the Black Mesa mine might fit into the plans outlined in the report. According to him, the mining was being done by Peabody Coal under leases from the Navajo and Hopi Tribal Councils. Peabody was planning to use one of the world's biggest scoop shovels and projected a thirty-five-year life for the mine. The coal would go in two directions: to the northwest, by railroad, to a 2,310-megawatt Salt River Project power plant at Page, on the shores of Lake Powell; and to the west, through a 273-mile pipeline, to a 1,580-megawatt Southern California Edison power plant at Bullhead City, Arizona. Water for cooling the enormous generators would be drawn at the Page plant from Lake Powell and at the Bullhead City plant from Lake Mohave; both lakes tap the Colorado River.

The pipeline was an ingenious method for shipping coal; it avoided the expense of a railroad and the untidy prospect of locating too many power plants in one area. The pipeline would be filled with a mixture of coal and water disgorged from a slurry preparation plant at the mine site. The slurry, containing coal chunks and dust floating in water, would be moved by pumps at two to three miles per hour and fed into the power plant. Water for the slurry would be drawn from five deep wells that tapped a fossil aquifer, embedded deep in the earth for millions of years.

The vastness of the project stunned me. How could such a thing be happening, only eighty miles from the Hopi villages, with so little Hopi concern or discussion? My informant at the BIA had some answers. The first lease, he said, had been negotiated with the Navajo Tribal Council in 1964. Peabody wanted another lease that would cover part of the Hopi reservation, but the Hopi Tribal Council had dragged its heels, despite the promise of enormous royalties. Finally, the Hopis had agreed to Peabody's plans, but only after some prodding.

Secretary of the Interior Stewart Udall had told the Hopis that the projected coal mine was important for the welfare of Americans as well as Hopis. When the lease had entered the stage of preliminary negotiations, a copy found its way to my informant's desk at the Keams Canyon BIA office. He noted that the lease contained no environmental safeguards and surrendered total control of 25,000 acres of land to Peabody. He sent the lease back to Washington with a critical note and a recommendation for changes. The Interior Department responded that he should not worry; everything was being handled in Washington. "If the Hopi had known they were going to pile mountains of dirt and just go off and leave it," he added, "you couldn't have gotten them to sign that lease for *any* amount of money!" Secretary Udall had redeemed Interior's oversights, he assured us, by persuading Peabody to agree to abide by regulations for restoring land mined under federal jurisdiction. "And," remarked our informant, "those regulations are tough, really tough." Just how tough they were will be revealed later in this essay.

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[7] Westinghouse Electric Corporation, *Four Corners Regional Development Study Program: Final Report Submitted to the Four Corners Regional Commission* (Baltimore: Systems Operation, 1969).

By the end of the summer of 1969, several Hopis, including Thomas Banyacya, had a sketchy idea of what was intended for Black Mesa. Some visitors from Los Angeles, representing the "Traditional Indian Land and Life Committee," also appeared to have a sketchy idea. But nobody knew any details beyond what I had discovered in Keams Canyon.

## The Issues

Upon returning to the University of Illinois, I used the library to add to what I already knew. I put together a picture of energy development resembling an octopus. The Hopi were merely a small part of this picture.

- In 1956 the BIA, using money from the Navajo-Hopi Rehabilitation Act of 1950, published an initial feasibility study of coal reserves on the Navajo and Hopi reservations. The resulting report identified the location of reserves and discussed methods of exploitation and transportation.[8]
- The power plants at Page and Bullhead City were two of seven linked to an energy consortium of twenty-three power companies known as WEST Associates. Two of these plants were already operating; all the others except one were under construction. The total amount of electric power would be 14,000 megawatts.[9]
- Peabody planned to dig four huge trenches, about 400 feet deep, filling them after extracting the coal. Three of these trenches would be filled with dirt, which would be contoured into rolling mounds; not even the most sophisticated equipment could pack the soil as tight as it had been. The fourth trench would be left open to fill up with water and become a lake, an unlikely occurrence on Black Mesa, where the average annual precipitation was barely eleven inches and where rain often fell in sudden downpours.
- Earth excavated from the mine would be carried by runoff into Dot Klish Wash, which feeds water to Navajo fields at Dinnebito and Hopi fields at Moenkopi. If the runoff contained too much clay or too many toxic elements, agriculture could be adversely affected.
- The five wells on Black Mesa were slated to operate twenty-four hours a day, except for maintenance shutdowns, and would pump water at a rate of 2,700 gallons per minute. Over thirty-five years, about 38 billion gallons would be depleted. Although the 3,500-foot wells were cased to a depth of 2,000 feet, there were no guarantees that upper water tables would not be affected. I could find only two hydrogeologic reports on Black Mesa,[10] and although the reports showed that several layers of shale and sandstone separated upper water tables from Peabody's aquifer, I was not convinced that seepage would not occur. What if the casings cracked? What if the shale cracked? What if the elliptical slant of the Black Mesa strata caused water to drain from the periphery—where Hopi and Navajo wells and springs were located—to the center, where the water would drain into the Peabody aquifer? What if a combination of reduced pressure, cracked casings, and shale fissures casued Hopi and Navajo water to be sucked into Peabody's wells? Could the pumping cause any desiccation of water sources?
- One of the seven power plants, slated for expansion, had been operating since 1963. This was the "Four Corners" plant at Fruitland, New Mexico. In 1970, this plant was emitting about 383 tons of fly ash, 1,032 tons of sulfur dioxide, and an undetermined amount of nitrogen oxides *per day*. Technology for controlling sulfur emissions was still experimental, and no technology existed for controlling stack emissions of nitrogen oxides. In an unpublished report, the U.S. Public Health Service suggested that gases from the Four Corners plant could damage vegetation and human health.[11] How might additional power plants affect Navajo and Hopi health? None of these issues

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[8] Geroge Kiersch, ed., *Metaliferous Minerals and Mineral Fuels*, Vol. I of *Mineral Resources, Navajo-Hopi Indian Reservation* (Tucson: University of Arizona Press, 1956).

[9] *Large Coal Fired Thermal Electric Generating Plants in the Four Corners Region* (Albuquerque: Sierra Club Southwest Office, 1970).

[10] J. W. Harshbarger, D. D. Lewis, H. E. Skibitzke, and W. C. Heckler, *Water Supply Paper 1648*, revised by H. C. Baldwin (Washington, D. C.: U. S. Geological Survey, 1966); M. E. Cooley, J. W. Harshbarger, J. P. Akers, and W. F. Hardt, *Regional Hydrogeology of the Navajo and Hopi Indian Reservations, Arizona, New Mexico and Utah*, Professional Paper 521-A (Washington, D. C.: U.S. Geological Survey, 1969).

[11] U.S. Department of Health, Education, and Welfare, Division of Control Agency Development, Bureau of Abatement and Control, *Estimates of Air Pollution Concentrates from Four Corners Power Plant, New Mexico*, MS (Arlington, Va.: U.S. Department of Health, Education, and Welfare, 1970).

was raised until the mines and power plants were nearly completed.

- Although the *Winters* and *Milk* doctrines gave Navajos unlimited rights to use Colorado River water, the Navajo Tribal Council in 1968 gave up all but 15,900 acre-feet of water per year, in order to assure enough water for the cooling towers of the Page plant on the shores of Lake Powell.[12] The Tribal Council feared loss of jobs for its people and loss of rents for the tribal treasury if the power plant was forced to locate elsewhere because of lack of a secure guarantee of water. A year later, realizing what it had done, the Council tried to rescind its bargain. The Department of the Interior, however, would not let the Council renegotiate.[13] In addition, the Navajo and Hopi Tribal Councils had given Peabody a bargain price for water from the Black Mesa wells: $5.00 per acre-foot. Why was water selling for such low prices?
- Some Navajos on Black Mesa would inevitably have to relocate. Grazing land for their sheep and goats would be expropriated or ruined by the construction of roads. Although some people on Black Mesa might get jobs at the mine, many would not. Were a few jobs worth the price of disruption of a way of life? Would the strip-mined land ever be suitable for grazing again? Would Black Mesa ever support human life after the coal was gone?
- Electricity from the power plants was to go to Los Angeles, San Diego, Las Vegas, Phoenix, Tucson, and Albuquerque. All together, seven users would purchase the electricity, including the U.S. Bureau of Reclamation and two federally funded projects: the Salt River Project and the Central Arizona Project.[14]
- Peabody intended to sell the coal to the operators of the two power plants for $750 million. Royalties of $14 million for the Hopi Tribe and $58 million for the Navajo were anticipated over the thirty-five-year period. The royalty rate was twenty to thirty cents per ton for coal sold on-reservation (to the Page plant). The lease contained an escalation clause in case the market price should go up.

My proposal for a doctoral dissertation included intensive study of the effects of non-Indian jurisdiction over Hopi communities.[15] I saw the Black Mesa situation as a perfect case study and mentioned in my proposal that Hopis themselves had already indicated interest in jurisdictional questions. In June 1970, I returned to Hopiland.

## Mobilization

Immediately I communicated the urgency of my findings to political leaders of Old Oraibi and Shungopavi villages. In two village meetings, I presented my data in as much detail and clarity as I could.[16] Although my presentation was in English, most of those attending the meetings understood quite well. An interpreter translated for the traditional chief—the Kikmongwi—of Shungopavi, and the leaders of both villages expressed their desire to mobilize opposition to Peabody.

At that point, I realized that I had given the political leaders of these communities some potentially explosive information. I had worked with them since 1968, and I knew that they had no use for the Tribal Council, the U.S. government, or the American corporate economy. They were part of a loose coalition formed in 1948 to resist further erosion of Hopi sovereignty. The Interior Department had shunted them aside in favor of the more tractable Tribal Council in 1955. As one man had told me, the Tribal Council had always been a "government council," not a Hopi council, and the traditionalists who opposed it would seize as much political advantage as they could from my information.

Was it proper for an anthropologist to supply information that would most certainly be used for political purposes? I hardly saw any other course. I had worked with these people since 1968. They had helped me in my oral-history research. I had, in turn, offered to include their point of view in my writings and had pledged to supply them with information that they could use. It seemed immoral *not* to have done the Black Mesa research and *not* to have turned the results of that research over to those Hopis who were most concerned about these issues.[17] Why had the Hopi Tribal Council not communicated its interest in these issues to its own people or conducted a research project of its own? Why had the Council ultimately signed the lease without looking into all the factors associated with the strip mining?

For an outside observer, these questions suggested others. Why did the political leaders of at least five villages—Old Oraibi, Hotevilla, Lower Moenkopi, Shungopavi, and Mishongnovi—immediately oppose the Tribal Council's actions? Why did the government and corporations go straight to the Tribal Council or the local Bureau of Indian Affairs agency, and not to the Hopi communities, when they wanted something?

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[12] Rosalie Martone, "The United States and the Betrayal of Indian Water Rights," *The Indian Historian*, 7, No. 3 (1974), 3–11.

[13] "Navajo Tribal Council Due to Relinquish Water Rights," *Arizona Republic*, 1 June 1969; Lloyd Linford, "A Little Closer to God: The Central Arizona Project," *Clear Creek*, No. 13 (1972), pp. 25–29, 68.

[14] *Large Coal Fired Thermal Electric Power Plants in the Four Corners Region*.

[15] Richard O. Clemmer, "Directed Resistance to Acculturation: A Comparative Study of the Effects of Non-Indian Jurisdiction in Hopi and Western Shoshone Communities," Diss. University of Illinois 1972.

[16] Richard O. Clemmer, *Economic Development vs. Aboriginal Land Use: An Attempt to Predict Culture Change on an Indian Reservation in Arizona*, MS. Copy in Library, University of Arizona, Tucson.

[17] Richard O. Clemmer, "Truth, Duty, and the Revitalization of Anthropologists: A New Perspective on Culture Change," in *Reinventing Anthropology*, ed. Dell Hymes (New York: Random House, 1972), pp. 213–247.

Mina Lanza, political leader of Old Oraibi and Lower Moenkopi, decided to pose these questions to Peabody. Mina and her husband, John, became two of Peabody's most vigorous opponents. John is head of the Badger clan of Old Oraibi and Lower Moenkopi and is a leader of the Powamu religious sodality. The Powamu sodality conducts the important Bean Dance ceremony every February; on this occasion children are initiated into the first secrets of Hopi life. Mina was Old Oraibi's most effective political leader between 1960 and her death in January 1978. Although her position was contested by a younger and an older brother, Mina assumed the guardianship of the village on the instructions of her father, Tewaquaptewa, when he died in 1960.[18] Within days of hearing the details of the Black Mesa energy scheme, Mina organized a delegation to visit the mine and confront the Peabody managers.

One hot morning in June we started off in cars and pickups. On the way, we stopped at a split-level, ranch-style house near Moenkopi. This was the home of a man who had agreed to act as Mina's interpreter. Driving up the paved highway toward Kayenta, we passed cars full of tourists. The cars were small dots on the red-rock landscape until they zoomed past us, on their way down from Monument Valley or the north rim of the Grand Canyon, headed for milk shakes and air-conditioned motels in Flagstaff.

The unpaved Peabody road was marked with a large sign. It cut a wide swath as it wound up to the mesa, except where it crossed a tiny rivulet of water burbling down a wash. There, the road narrowed to a bumpy jeep path. Obviously there had been erosion problems. At the mine, machinery was everywhere. Trucks with wheels higher than a pickup roared along, full of dirt. Clouds of dust melted into the air. Ravaged pine and juniper had been tumbled into piles, and the landscape had been scraped clean except for a Navajo hogan or two. In a wash was a pile of black goo that appeared to be coal dust. In a huge trench, a whirring scoop shovel dumped dirt into the trucks that roared past us. It filled one truck about every three minutes. Not much coal was being mined yet; all this was over-burden, earth that had to be removed before the coal was exposed.

We saw no people until we came to the slurry preparation plant, a towering green and white structure bedecked with machinery, pipes, conveyor belts, spouts, and chutes. In its shadow were some of the huge trucks and a couple of trailer houses. A Navajo man in work shirt, blue jeans, and hard hat was walking toward one the trucks, his long hair tied back in traditional style. As we parked, he was climbing onto one of the huge machines. As we assembled and walked across the gravel yard, the man on the machine was grinding away on the starter; the engine refused to catch. As we entered one of the trailers, I noticed the man climbing down, apparently disgusted at the unexpected technological failure.

Inside, two dozen of us spread out on the periphery of the room. Someone found a chair for Mina. The interpreter asked for the manager. Aside from me and a couple of writers and photographers, all were Indians. Ranging in age from thirty to eighty, there were an equal number of men and women. The elders did all the talking.

Mina wanted an answer to one question: who had given Peabody permission to come onto Hopi land and do all of this? Mystified by the insistence of the interpreter and by the Hopis' deference to Mina, who appeared as merely a short, elderly, gray-haired lady in brown print dress and Mexican shawl, the mine manager must have harked back to cowboy and Indian images. "We're here for friendship," the manager said, putting on a sincere face. "We want to be friends." Dealing with this man was humiliating, depressing, and frustrating. Everything was legal, the manager assured us; it was all in a lease. "We're here for friendship, too," replied the interpreter. "I wonder if we could see a copy of that document?" The manager told us he did not have a copy of the lease, but he assured us that it did exist. Perhaps we should try the Black Mesa Pipeline Company in Flagstaff.

Mina decided to leave the poor man alone. Outside, the delegation agreed that it was useless to drive 200 miles to Flagstaff. The mine manager would obviously phone ahead and make sure the Black Mesa Pipeline people were preoccupied with some horribly urgent matter and unable to talk with the delegation. It seemed that Peabody had not anticipated anything like this, and the company would have to plot strategy hastily.

Later that week, a meeting was arranged between J.G. Montfort of Black Mesa Pipeline Company and John and Mina Lanza. I drove John and Mina into Flagstaff. Mr. Montfort was affable, courteous, and forthright. Smiling, he explained that the pipeline company (a subsidiary of Southern Pacific Railroad) was merely contracted to handle the slurry transport. He had not known of the existence of village chiefs or traditionalists until that moment. Mina and John explained to him that gouging the earth was inconsistent with Hopi ethics and religion. Mr. Montfort was sympathetic; he saw the point. But the leases had been signed. What could he do? And no, by the way, he did not have a copy of the lease to show us. He did not know who had signed it. Perhaps the BIA, or Peabody's St. Louis office, or even the Hopis' own tribal government would have a copy.

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[18] For an extended discussion, see Richard O. Clemmer, *Continuities of Hopi Culture Change* (Ramona, Calif.: Acoma Books, 1978).

As we left, John turned to me and said, in his quaint English, "I think he just give us the runs-around."

### The "Runs-Around"

The "runs-around" characterized the next six months of dealings with Peabody, the BIA, the Tribal Council, and the Department of the Interior. I wrote to Peabody in St. Louis asking for a copy of the lease and was referred to the Bureau of Indian Affairs. Others wrote to the Bureau of Indian Affairs and were referred to the Tribal Council. The Tribal Council referred people to the BIA office in Keams Canyon. Keams Canyon advised contacting the county recorder. The county recorder suggested writing to Peabody. Nobody, it seemed, had a copy of the lease.

John Lanza contacted the Hopi Tribal Council soon after meeting with Montfort. Skeptical of the responsiveness of the tribal government, he had told me on several occasions that he had ceased dealing with the Council long ago. It had continually ignored his complaints and insisted that any discussions must be by appointment only. The Council people kept telling him to come down to their offices to discuss things. John decided that he did not have time to waste with people who ignored him. It was a two-mile walk from Old Oraibi down to the foot of Third Mesa, where the Tribal Council had its offices. "I tell them," said John, "my office is up here, in my home. They can come up here to see me." The problem was that none of the tribal officers wanted to see John. He opposed most of what the Council did and was firm in his convictions. He was an elder, and his opinion carried weight in some circles. It was easier for Council members to ignore him than deal with him.

Nevertheless, in July 1970, John took time out from farming to stop by the tribal offices. The secretary gave him an appointment with the tribal chairman, Clarence Hamilton. John walked down to the offices again for the appointment. Hamilton acknowledged that the Tribal Council had a copy of the Peabody lease, and he promised to get a copy for John. But John would have to come back for it in about a week: it was very thick and would take a long time to copy.

A week later, John picked up the document, which Hamilton had left with a secretary. That evening I visited John. He handed me the document. "I don't think that's it," he told me. "Hamilton tell me it's thick, take a long time to copy, but that's just only a few of it."

It was exactly six pages long, and it was not the strip-mining lease. It was a lease that Peabody had signed with the Hopi Tribal Council in 1969 for further exploration of additional coal beds.[19] This was interesting, but it was not the lease that John was looking for. It told us something about Peabody's future intentions but was subsidiary to what was going on at the time. It appeared that Hamilton had deliberately deceived Lanza.

Later that summer, Fermina Banyacya also tried to get a copy of the lease. Hamilton always managed to be "out," and nobody else in the tribal offices knew anything about the lease. At one point, Fermina discovered that the Council had changed its meeting place to the newly constructed cultural center, near Shungopavi on Second Mesa. She drove over to the center and discovered the Council in session. Exasperated at the badgering of these pesky and persistent Hopis, Hamilton came out of the room and told Fermina bluntly that he had no intention of giving out a copy of the lease because she "just wanted to spread it to the outside." With that, he shut the door in her face.

Indeed, Fermina did want to "spread it to the outside." Gaining outside support was the only way that Hopi opponents of the mine could strengthen their position. The cry of "outside interference" has been a familiar one on the Hopi reservation. The BIA had long ago decided that it was the only outside agency blessed with the right to interfere in Hopi life.[20] Apparently the Tribal Council agreed. As I discussed Black Mesa with non-Indians over the next two years, I heard the same questions again and again. What right did outsiders have to oppose a decision that had been made by the representatives of the Hopi and Navajo peoples? If the Indians wanted to mess up their own environment, what right did environmentalists have to tell them they couldn't? Wouldn't a lot of Indians get jobs and royalties from this? How did I know the Hopi Tribal Council was unrepresentative? How many Hopis actually opposed the Tribal Council and the strip mining? How did I know the majority of Hopis were against it?

The only way to untangle the snarl of stereotypes and perplexities of the Black Mesa issue is to undertake a fairly detailed discussion of Hopi history.

### History

From at least 1858, the role of the white man in Hopi life had been controversial, especially on Third Mesa.[21] When the Interior Department assumed jurisdiction over the Hopi reservation in 1882, it pursued three policies destructive to Hopi life: forced schooling, relocation away from the mesas, and land allotment. In 1887, a boarding school was opened at the BIA office in Keams Canyon, but most Hopis at Oraibi refused to send their children to it. Those who did send their children away were regarded as opportunists. Federal troops made the first arrests of Hopis for "noncooperation" in 1890.

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[19] *Drilling and Exploration Permit*, Contract No. H50C14207041 (Phoenix: U.S. Bureau of Indian Affairs, 1970).

[20] Harry James, *Pages from Hopi History* (Tucson: University of Arizona Press, 1974), pp. 102–125, 164–186.

[21] Jacob Hamblin's autobiographical narrative in *Three Mormon Classics*, ed. Preston Nibley (Salt Lake City: Stevens and Wallis, 1944).

In 1891, the Government tried to implement the General Allotment Act of 1887, known as the Dawes Act. Hopis immediately recognized the insidiousness of the act. Reservation land was to be allotted to individual heads of households in parcels of 160 to 320 acres. Remaining land was to be sold.

Private ownership of land is foreign to Hopis; land cannot be owned because it belongs to the spirits K'taimetah and Massau-u. Men who claim use of land must be prepared to perform ceremonies to take care of it, and land cannot be bought or sold. Certain lands have always been set aside as farming plots, and certain clans and their female caretakers have traditional farming rights to these plots. A man may farm either the lands of his own clan, turning the produce over to his clan mothers, sisters, and other relatives, or the lands of his wife's clan. In the latter case, the fruits of his labor would most likely remain in his household, but at least a partial distribution would be made to his wife's relatives. The usual pattern is for a man to farm a portion of his wife's clan's lands as well as those of his own clan. Lands that are not farmed are cherished for their historic and inspirational significance as recalled in Hopi myth and ceremony.

With this collective orientation toward land, the Hopis had little motivation for allotment. Some men pulled out the survey stakes that marked out the allotted plots. Again, the exasperated government agent called out the troops.

In an unusual move, the Oraibis confronted the troops with an armed force. Wisely, the troops withdrew. In July 1891, they returned and made arrests. This time they dragged a Hotchkiss machine gun along, and amid blasts of the gun intended to intimidate the Hopis, they hauled their prisoners off to Fort Wingate. Troops came again in 1892, 1894, and 1895. Each time, they captured children for the boarding school in Keams Canyon or for the Baptist or Mennonite mission schools. Most of the troops were Black, and when troops were not used, patrols of Navajo police replaced them. In 1895, arrests were made at Shungapavi as well as Oraibi, and the Hopis were sent to the military prison at Alcatraz.[22]

Between 1896 and 1906, a rift developed in both these villages. Some Hopis decided that they might as well accommodate to the white man. But most had no intention of yielding to intimidation. Periodic attempts to move the Hopis off their mesas and forcibly cut off the men's traditional hair knots encouraged dissension and division. During this period, distinct "hostile" and "friendly" factions, with different leaders, developed in Oraibi. In 1906, the "hostiles" were forced out of Oraibi and founded the village of Hotevilla, about four miles away.

Space does not permit a detailed discussion of this conflict.[23] I would simply emphasize that government officials were by no means disinterested onlookers and that government interference in Hopi life was the issue that precipitated the Oraibi split. Without even the pretense of a trial, the Commissioner of Indian Affairs sentenced about ninety "hostile" leaders to a year in prison, dispatched troops to "keep order," and sent the Oraibi Chief, Tewaquaptewa, to Sherman Indian Training School in Riverside, California, "until he has fitted himself by acquiring enough knowledge of English to be able to speak and understand fairly the language of the Government of our country and the laws; for the instruction and guidance of the people he aspires to rule."[24] Tewaquaptewa and his family were virtually kept prisoner there for four years. When he returned Oraibi, Tewaquaptewa was a bitter opponent of the government. He passed this legacy on to his daughter, Mina.

By 1935, U.S.-Hopi relations had become quite complicated. First Mesa people, including the Tewa,[25] generally considered themselves, and are considered by the government and by other Hopis still, to be cooperative and "progressive," despite their maintenance of traditional ceremonies and social organization. On Third Mesa, the situation was more complex. The town of New Oraibi had grown up at the foot of the mesa and was a "progressive" town under heavy government and missionary influence. Bakabi had been established as a "government village" just across the road from Hotevilla by another Oraibi faction. Old Oraibi was crumbling into ruins, and its 100 residents had become as hostile to government influence as Hotevilla. Moenkopi had split into Lower and Upper villages; Lower Moenkopi remained loyal to Old Oraibi, while Upper Moenkopi formed a village council in 1930 and came to represent a "progressive" element.[26]

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[22] Charles Lummis, *Bullying the Moqui*, ed. Robert Easton and MacKenzie Brown (1903; rpt. Prescott, Ariz.: Prescott College Press, 1968); James.

[23] I discuss the conflict at length in *Continuities of Hopi Culture Change*. See also Mischa Titiev, *Old Oraibi: A Study of the Hopi Indians of Third Mesa*, Papers of the Peabody Museum of American Archaeology and Ethnology, 22, No. 1 (Cambridge, Mass.: Peabody Museum, 1944; rpt. New York: Kraus Reprint Corp., 1968), pp. 69–95; Edmund Nequaptewa, *Truth of a Hopi*, Bulletin No. 8 (Flagstaff: Museum of Northern Arizona, 1936; rpt. Flagstaff, Ariz.: Northland Press, 1976).

[24] Francis Leupp, *Annual Report of the Commissioner of Indian Affairs, 1906* (Washington, D. C.: U.S. Office of Indian Affairs, 1907), p. 85.

[25] For a discussion of the Hopi-Tewa, see Edward Dozier, *Hano: A Tewa Indian Community in Arizona* (New York: Holt, Rinehart and Winston, 1966).

Once the Hopis were divided and hostile to one another, the BIA embarked upon a program to bring the Hopis together into one united tribe and give them a tribal council. In 1934, the new Commissioner of Indian Affairs, John Collier, sent anthropologist Oliver La Farge to Hopiland to create a Hopi tribal council. Suddenly, the Hopi were to be given "self-determination." Even now, the events surrounding the creation of the Hopi Tribal Council are a controversial subject among Hopis.

In 1968, a Hopi man who opposed the voting for the Tribal Council told me the BIA had used the following procedures:

> Just before they had that vote, they took all the educated Indians—mostly Hopi and Navajo but some Pima, Papago—and put them in a camp up at Cameron. They tried to get me up there, but I didn't go. I knew something was up. Then they turned them all loose on these villages with ballot boxes. On the ballots there was a circle and a cross. No writing. The people didn't know what was going on. They told them, "If you want to keep your land, choose the cross; if you choose the circle, you might lose it." Now the Hopi has a symbol—a circle with a cross in it; the circle means continuous life, and the cross is the four points of life. And on this paper, the two were separate, so he knew something was wrong. Most of the people didn't vote.

What the Hopis were actually voting on was the Wheeler-Howard Act. As presented to Indians, it was over eighty pages of complicated legal terminology. It is doubtful that any Hopis read it all. Since Arizona did not grant Indians the right to vote until 1948, most Hopis had probably never voted before. It was hardly an exercise in responsible democracy.

When the votes were in, the crosses had won. It meant that the Hopis had adopted provisions of what Congress called the Indian Reorganization Act (IRA). Oliver La Farge wrote the "Constitution and By-laws of the Hopi Tribe, Arizona," and in 1936 that, too, was adopted by the Hopis in a referendum.

Recently, Joseph Jorgensen and I have uncovered some statistical anomalies that throw additional light on the BIA's manipulative procedures. In 1936, John Collier reported that 45 percent of the eligible Hopi voters had participated in the IRA referendum. He reported the results as 519 "yes" and 299 "no" votes.[27] Months later, Collier reported that the Hopis had approved La Farge's constitution by a vote of 651 to 104, the votes representing 50 percent of the eligible voters. If Collier was not making up statistics to suit his ends, how can the figures be reconciled? Unless there was a precipitous decline in the number of eligible voters, a total of 755 votes could not equal 50 percent of the voters in 1936 if, just one year earlier, 818 votes equaled only 45 percent.

Unfortunately, Interior Department statistics show no figures—not even estimates—for the number of eligible Hopi voters in 1935 and 1936. Two population figures are shown for those two years: 2,538 for 1935 and 3,444 for 1936.[28] How could Hopi population have increased by 35.5 percent in one year? Which figures did Collier use to calculate the number of "eligible voters"? Were all adults eligible to vote? Was there a literacy requirement? These unanswerable questions, combined with the discrepancies in Collier's reports, cast doubt on Collier's claims of the proportion of eligible Hopis who participated in the IRA elections. From calculations Jorgensen and I have presented elsewhere, it appears that the percentage of eligible voters participating in the 1935 referendum barely reached the 30 percent minimum mandated by the IRA.[29]

La Farge had grave doubts about saddling the Hopi with a tribal council.[30] He included in the Hopi constitution clauses guaranteeing village autonomy and mandating the incorporation of traditional Hopi social organization into the council system by requiring representatives from traditional villages to be certified by the village chiefs, or Kikmongwis. But La Farge left the status of nontraditional villages deliberately vague by stating that "each village shall decide for itself how it shall be governed" and that these villages "may draw up a village constitution specifying the manner in which Council representatives shall be selected." He also included a clause that permitted the Secretary of the Interior to delegate to the Tribal Council whatever powers he saw fit, even if they were not enumerated in the constitution.

Certain things were spelled out explicitly. One was a clause authorizing the Tribal Council to "prevent the sale, lease, encumbrance or disposal" of tribal lands. Other clauses established the powers that the Secretary of the Interior would have over the Council. Among these powers were approval of the Tribal Council's choice of lawyers, the fixing of legal fees, and the approval of ordinances, the constitution itself, and amendments.[31]

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[26] Shuichi Nagata, *Modern Transformations of Moenkopi Pueblo* (Urbana: University of Illinois Press, 1970), pp. 42–97.

[27] John Collier, Letter to the Secretary of the Interior, 11 September 1936, Healing v. Jones files, Museum of Northern Arizona, Flagstaff; *Constitution and By-laws of the Hopi Tribe, Arizona, 1936*; John Collier, *Report of the Commissioner of Indian Affairs, 1936* (Washington, D.C.: U.S. Office of Indian Affairs, 1937).

[28] Theodore Haas, *Ten Years of Tribal Government under IRA*, Tribal Relations Pamphlet 1 (Chicago: U.S. Indian Service, 1947). Stephen J. Kunitz describes demographic data on the Hopi as "vague." However, he cites the figure 3,444 with a 1940 date, assigning it to a population estimate made by Alice Joseph. He cites a 1934 figure of 2,438 from the BIA. He drew the citations from an unpublished paper listed in his bibliography. See Stephen J. Kunitz, "Demographic Change among the Hopi and Navajo Indians," *Lake Powell Research Project Bulletin*, No. 2 (Los Angeles: University of California, Los Angeles, Institute of Geophysics and Planetary Physics, 1973).

[29] Joseph Jorgensen and Richard Clemmer, "America in the Indian's Past," *Journal of Ethnic Studies*, 6, No. 1 (1978).

[30] James, pp. 203–204.

Commissioner Collier was a reformer who did not wish to continue the BIA's repressive policies.[32] But he also wanted firm control over Indian affairs. Indian agents could not be expected to run around to every Hopi community whenever the BIA wanted something done. It would be much easier to persuade one tribal council, all members sitting in the same place at the same time, removed from the communities they purported to represent. Above all, Collier wanted the Hopi Tribal Council to implement stock reduction. The range was severly overgrazed, and Collier wanted the Hopis' cooperation. He did not get it. After a year, all Kikmongwis except one withdrew their certifed representatives, leaving the Council without a quorum. The Bureau disbanded the useless council in 1943 and tried to cajole the Hopis into stock reduction through grazing committees.[33]

After the war, Collier was forced out of office by conservative congressmen,[34] and Indian policy fell into shambles. In the confusion that followed, Hopis took their first significant steps in charting their own destiny without advice or interference from the federal government.

### Traditionalists and the Tribal Council

Between 1946 and 1948, the Kikmongwis and traditional leaders of religious sodalties from Hotevilla and the three Second Mesa villages came together in numerous meetings. They outlined a strategy for assuring the vitality of Hopi culture and society and developed a political ideology. They also selected younger men as interpreters and spokesmen. In 1949, twenty-four ceremonial leaders from four villages sent a "position letter" to Harry Truman. This document denied oil companies drilling access to Hopi lands; denounced any and all plans the BIA had for Hopis, no matter how benevolent they sounded; refused the status of "full, tax-paying citizens" offered by the Hoover Commission and termination advocates;[35] rejected American foreign policy as bellicose; and dismissed the notion that Hopis should ask the government for their own land through participating in the Indian Claims Commission proceedings. It affirmed the strength and superiority of Hopi culture, and noted:

> Now we cannot understand why since its establishment the government of the United States has taken over everything we owned either by force, bribery, trickery, and sometimes by reckless killing, making himself very rich. . . . This land is a sacred home of the Hopi people. . . . It was given to the Hopi people the task to guard this land . . . by obedience to our traditional and religious instructions and by being faithful to our Great Spirit Massau'u. . . . We have never abandoned our sovereignty to any foreign power or nation. . . .[36]

Hopi power did not last long. The Tribal Council was revived in 1951 through the efforts of the BIA and Hopis from Moenkopi, New Oraibi, and First Mesa. The BIA had told these Hopis that the only chance they had of regaining land that had been lost to Navajos was to revive the Tribal Council.[37] The Council was revived and fitted with a quorum. Attorney John Boyden from Salt Lake City was retained on a contingency basis to file the claim with the Indian Claims Commission. Of course, the traditional coalition of chiefs had refused to recognize the Claims Commission two years earlier; but other Hopis thought that something might come out of it. Without the Claims Commission, the dispute would have left legal title to the contested land clouded forever.[38]

For four years, the traditional coalition and the Tribal Council functioned alongside each other as representatives of the Hopi people. In 1955, Commissioner of Indian Affairs Glen Emmons authorized a panel to conduct interviews in each Hopi village in order to determine whether or not the Tribal Council should be recognized as the exclusive representative of the Hopi people. The overwhelming bulk of testimony opposed government policies and the Council.[39] Nevertheless, the government chose to recognize the

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[31] *Constitution and By-laws of the Hopi Tribe*, art VI, sec. 1(b), 1(g), 3; art. X; By-laws, art. VI.

[32] Stephen Kunitz, "The Social Philosophy of John Collier," *Ethnohistory*, 18 (1971), 213–220; Julian H. Steward, "The Limitations of Applied Anthropology: The Case of the Indian New Deal," *Journal of the Steward Anthropological Society*, 1, No. 1 (1969), 1–17.

[33] *Hopi Hearings Conducted by a Team Appointed by Glen L. Emmons, Commissioner of Indian Affairs et at., July 15–30, 1955*, MS (Keams Canyon, Ariz.: U.S. Bureau of Indian Affairs, Hopi Indian Agency, 1955); Nagata.

[34] Donald Parman, *The Navajos and the New Deal* (New Haven, Conn.: Yale University Press, 1976), p. 289.

[35] Commission on Organization of the Executive Branch of the Government, Herbert Hoover, Chairman, *Task Force Report on Indian Affairs* (Washington, D.C.: n.p., 1949).

[36] Talahaftewa et al., Letter to the President, 28 March 1949, author's files.

[37] *Hopi Hearings*, pp. 310–312.

[38] Jack Forbes, "The 'Public Domain' of Nevada and Its Relationship to Indian Property Rights," *Nevada State Bar Journal*, 30, No. 3 (1965), 16–47; Clemmer, *Continuities of Hopi Culture Change*.

[39] *Hopi Hearings*.

Hopi Tribal Council as the exclusive representative of the Hopi people.

In 1961, the Secretary of the Interior, acting on a request by attorney Boyden on behalf of the Tribal Council, authorized the Council to lease Hopi land.[40] The Hopi Constitution did not specifically authorize the Tribal Council to lease land; in fact, article VI, section 1(c) specifically authorized the Council to "prevent the sale, disposition, lease or encumbrance of tribal lands." It was at least questionable whether leasing was permitted by the Hopi Constitution. If it was not, then Interior's actions made a farce of the amendment procedures spelled out in the By-laws.

By 1963, the Council had let $3 million worth of oil and gas exploration leases. The Council invested part of this money in a disastrous industrialization venture foisted on it by the BIA.[41] One million dollars were paid to attorney Boyden for his previous eleven years of work.[42] The Black Mesa leases were rationalized as a mere continuation of this policy.

All of the leasing occurred during Stewart Udall's tenure as Secretary of the Interior. When the first Black Mesa lease was signed with the Navajo, Udall proclaimed that the mine and power-plant complex would mean "new jobs, large tax benefits, and tremendous economic advantage not only in royalties and jobs for the Indian tribes, but also for the entire Southwest."[43] Once he was committed to leasing and the construction of coal-fired power plants, Udall considered the Hopi Tribal Council to be an "Indian government" that was subject to the same powers of persuasion as a board of directors. Obviously, Udall would not question the Tribal Council's legal right to represent the Hopi.

But when the second Black Mesa lease was signed in 1966, the Council's legal status was still ambiguous. Only two Kikmongwis had certified a total of five representatives; Lower Moenkopi and Hotevilla sent none; and the Kikmongwis of Shungopavi and Mishongnovi refused to certify any councilmen. The Council and the BIA recognized Mina Lanza's older brother as chief of Old Oraibi, but most of his villagers did not. Neither Bakabi nor New Oraibi had a Kikmongwi, but they also had no village constitutions specifying how their representatives to the Council were to be chosen. Only Upper Moenkopi elected two representatives in accordance with a village constitution. Could it be assumed that Bakabi and New Oraibi had decided to reorganize, even though they had presented no documents to that effect? Could Mina's older brother be assumed to be undisputed Kikmongwi of Old Oraibi solely on the basis of BIA and Council recognition? Did the Council have a legal quorum?

The Department of the Interior was certainly not going to probe these questions, especially when it had things just the way it wanted them. Hopis knew why the Council and the BIA worked so closely together. Outsiders did not understand the Council-BIA connection and were therefore puzzled as to why "Indians" were opposing something that "Indians" had "approved." The traditionalists had to adopt a strategy of "spreading to the outside" in opposing Peabody. Clearly, nothing could be done within the confines of the Tribal Council, the Hopi reservation, the Bureau of Indian Affairs, or the Department of the Interior.

Yet, I wondered how much of the total picture Udall had when he approved the Black Mesa leases. Perhaps an underling had done most of the legwork. It was well known that Harrison Loesch was the Interior Department's special liaison with the BIA. Perhaps he had arranged the leases. I wrote an "open letter" to Udall in 1971 asking him why he had approved the leases, in view of his concern for the environment.[44] In a hand-written note, he replied that he had thought the leases best for Indians at the time. "And where were you," he queried petulantly, "when the leases were signed? Why didn't you do something?" Perhaps Udall had forgotten that there were no public hearings and no environmental impact statements.

## Further Developments

On a cold night in November 1970, I walked into Thomas and Fermina Banyacya's house and was happy to find John Echohawk seated at the kitchen table. John was among the first graduates of the University of New Mexico's Indian Law Program. With several other attorneys, he was part of the embryonic Native American Rights Fund (NARF). He had come to investigate Thomas's request for legal assistance on behalf of the elders, and he had brought a copy of the lease. The county recorder had had a copy after all.

The lease was for a period of ten years, renewable every year for an indeterminate period, until the coal ran out. It specified royalty rates and acreage. It mandated Peabody to cooperate with the Hopi and Navajo Tribes and with the Secretary of the Interior in reseeding mined areas at the company's expense.

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[40] Kenneth Holum, Assistant Secretary of the Interior, Letter to Frederick Haveland, Phoenix Area Director, U.S. Bureau of Indian Affairs, 24 May 1961, author's files.

[41] Richard O. Clemmer, "Hopi Political Economy: Industrialization and Alienation," *Southwest Economy and Society*, 2, No. 2 (1977), 4–33.

[42] "Hopis' Lawyer to Get $1 Million," *Arizona Republic*, 5 December 1964.

[43] Alvin M. Josephy, Jr., "The Murder of the Southwest," *Audubon*, 73, No. 4 (1971), 59.

[44] Letter reprinted in *Akwesasne Notes*, 3, No. 9 (1971), 43; *Dine Baa-Hani*, 4 November 1971, p. 5.

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Peabody further pledged to "commit no waste on said land" and to "surrender and return promptly to the premises [sic] upon the termination of this lease, in as good condition as received, except for the ordinary wear, tear and depletion incident to mining operations."

That seemed to me to be quite a big exception, giving Peabody carte blanche to do just about anything. Only reseeding was mandated, and that seemed to be judiciously phrased in terms of "cooperation," not requirement. No enforcement procedures were specified; predictably, enforcement depended on the whim of the Secretary of the Interior.[45]

I left Oraibi in December 1970. When I returned to the Southwest the following May, things were happening. The political leaders of five villages had retained John Echohawk and the Native American Rights Fund to file a lawsuit against Peabody and Secretary of the Interior Rogers Morton. NARF attorneys had received a grant from the Ford Foundation to finance the case, and they were in Washington preparing to file. Chief Ned Nayatewa, Kikmongwi of the Consolidated Villages of First Mesa, and Frank Chapella, Chief of Tewa Village, had joined as plaintiffs. Their participation was significant; Ned and Frank had long supported the Tribal Council, and their reversals of policy demonstrated that there was a groundswell among their constituents. For the first time in many years, the Hopi were united against their own Tribal Council.

Since Shipaulovi's Kikmongwi had just died, and since Shipaulovi was ceremonially affiliated with Shungopavi, the Shungopavi Kikmongwi assumed representation of Shipaulovi for purposes of the lawsuit. Mina Lanza's jurisdiction was extended to New Oraibi on the assumption that, because it did not have a written constitution, New Oraibi had not decided to organize outside traditional Hopi social organization. On the same assumption, Bakabi was brought under Hotevilla's jurisdiction for the purposes of the lawsuit, since it also did not have a Kikmongwi. Only one traditionalist leader was conspicuously absent from the anti-Peabody coalition: Dan Katchongva.

Katchongva had been instrumental in bringing the traditional chiefs together in 1946. He had resisted government encroachment since 1906, when he was among those arrested and imprisoned for nearly a year. For some time, he had functioned as Hotevilla's Kikmongwi.[46] But, although most of Hotevilla's religious leaders joined the suit as plaintiffs, Katchongva did not. His experience told him that to expect justice from American courts was foolish and would compromise Hotevilla's sovereignty. He issued his own statement in the form of a letter to the Tribal Council and the BIA, sent by his interpreter. It read, in part:

> Your exploitation has come to my attention that you have committed very serious and dangerous move, as in the past, again, without informing the leaders of the Hopi Nation. . . .
>
> Your organization [the Tribal Council and the BIA] was founded yesterday, "illicitly," a tool designed by the government to disrupt our cultural ways of life, rob us of our land and resources for industrial developments of our land, to live like whitemans way, snare into financial difficulties, a scheme to claim our land by means of foreclosures. Without sufficient fact weighing you have blundered most dangerous positions, our land is in jeopardy and the generations to come. . . .
>
> Your organization are being unjust and unfair to those who you suppose to serve, including all the people in effected areas, for the very small dead end wager of very small value, comparason of values of the Mother Earth, her resources, the air, water, people and wild life.[47]

Who knows whether Interior Department officials were affected by that letter, or if they even saw it? Only the media seemed to have much impact, and their interest was ephemeral. By mid-1971, Black Mesa was a major news story. Walter Cronkite had shown a news clip of Mina Lanza and other Hopis; the *New York Times* had carried a series of articles; the *Washington Post* planned a story; two new ecology magazines on the West Coast had carried features; and six film and video projects were in production or pending.

Bechtel Corporation, involved in constructing plant facilities, had issued a detailed pamphlet about the Page plant, dubbed the "Navajo Generating Station." It included a color photo of an artist's rendering of the completed structure. Red and white smokestacks—with no smoke—were outlined against a clear blue sky. Trees dotted the foreground. Mothers strolled with their children. There was not one Indian in the whole picture.[48]

Peabody issued its own sleek pamphlet, *Mining Coal on Black Mesa*, which contained statistics about energy needs and jobs and assurances of reseeding and environmental protection.[49] Peabody also sent an

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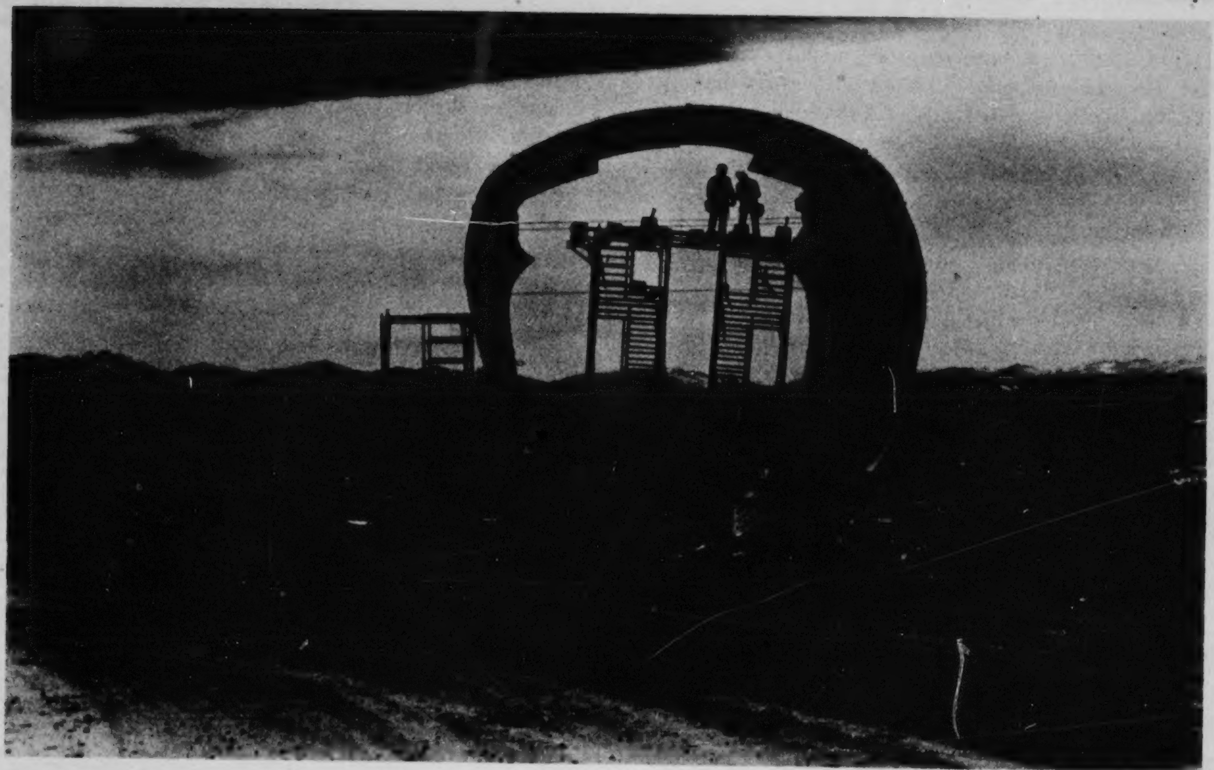
[45] U.S. Department of the Interior, Bureau of Indian Affairs, *Mining Lease between Sentry Royalty Company and the Hopi Tribe, State of Arizona*, Contract No. 14-20-0603-5743, 6 June 1966.

[46] The details are complicated. See Titiev, p. 211; Clemmer, *Continuities of Hopi Culture Change*, pp. 38, 41, 44, 76–79.

[47] Katchongva, Letter to Hopi Tribal Council and Bureau of Indian Affairs, 8 September 1970, author's files.

[48] The Navajo Project, *Status Report: Environmental Planning for the Navajo Generating Station* (n.p.: Bechtel Corporation, 1970).

[49] Peabody Coal Company, *Mining Coal on Black Mesa* (n.p.: n.p., 1970).



official out to Oraibi to talk with Mina. The official, like others, was sympathetic, but he wrung his hands and said there was nothing he could do. The leases had been signed.

Several Indian support groups, including the Traditional Indian Land and Life Committee in Los Angeles and the Committee of Concern for Traditional Indians in San Francisco, had mobilized around the Black Mesa issue. By far the most effective group was the Black Mesa Defense Fund in Santa Fe. The Fund had three codirectors: Jack Loeffler, Terrence Moore, and Jimmy Hopper. They had taken on the Black Mesa issue in March 1970, after reading William Brown's "Rape of Black Mesa" article in the short-lived *New Mexico Review and Legislative Journal.*[50] Later they had met Thomas Banyacya and other Hopis. With some assistance from volunteers, they worked eighteen hours a day, arranging publicity, raising funds, writing articles, and responding to requests for information.[51]

In May 1971 the lawsuit was filed. It named Peabody Coal Company and Rogers Morton as defendants and listed sixty-two Hopi plaintiffs, most of them leaders of religious sodalities in all villages. The suit alleged that the Secretary of the Interior's approval of the lease was unlawful because it "was in excess of the Secretary's statutory jurisdiction and authority and without the observance of procedures required by law." It also alleged that the mining "violates the most sacred elements of traditional Hopi religion, culture and way of life," and that "as a result of the Secretary of the Interior's wrongful and illegal approval of the Black Mesa strip mining lease and of the Peabody Coal Company's strip mining operations on sacred Hopi lands, the plaintiffs are being harmed in a way that . . . can never be repaired."[52]

To explain this last point, six Hopi elders drew up a statement to accompany the complaint:

> Hopi land is held in trust in a spiritual way for the Great Spirit, Massau'u. . . .
>
> The area we call "Tukunavi" [which includes Black Mesa] is part of the heart of our Mother Earth. Within this heart, the Hopi has left his seal by leaving religious items and clan markings and plantings and ancient burial grounds as his landmarks and shrines. . . .
>
> This land was granted to the Hopi by a power greater than man can explain. Title is vested in the whole makeup of Hopi life. . . . The land is sacred and if the land is abused, the sacredness of Hopi life will disappear and all other life as well.[53]

Beyond the religious and jurisdictional issues, the suit alleged that the Hopi Tribal Council did not have the power or authority to approve the lease because the Hopi Constitution authorized the Council to "*prevent* the lease of Hopi lands." The suit further held that, at the time the lease was signed in 1966, only eleven of eighteen seats on the Council were filled, and of those eleven, "five members. . . were not certified in accordance with the procedures . . . mandated by the Hopi Constitution."[54]

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[50] William E. Brown, "The Rape of Black Mesa," *The New Mexico Review and Legislative Journal*, 2, Nos. 8 and 9 (1970), 3–5.

[51] Their most ambitious publication was *Myths and Technofantasies.*

[52] Plaintiffs' Brief, Starlie Lomayaktewa et al. v. Rogers C.B. Morton and Peabody Coal Co. (D.D.C. 14 May 1971), pp. 3, 18.

[53] Plaintiffs' Brief, Exhibit A, p. 1.

At the same time, NARF filed five other environmental lawsuits in the Black Mesa case representing Navajos, Apaches, the Colorado River Indian Tribes, the Sierra Club, Friends of the Earth, and National Wildlife Federation. Clearly, the Black Mesa issue had gained wide support from the resurgent environmental movement.

During the week the lawsuit was filed, the Black Mesa Defense Fund ran a full-page ad in the *New York Times*, the *San Francisco Chronicle*, and other newspapers. It featured a picture of John Lanza, face framed by steel-gray hair and bandana, looking grim but firm. "Strip-mining Black Mesa," said the ad, "is like ripping apart St. Peter's in order to sell the marble."

Through contact with the office of New Mexico senator Clinton Anderson, Black Mesa Defense had convinced the Senate Committee on Interior and Insular Affairs to hold five on-site hearings to assess the environmental, social and economic impact of WEST's massive Southwest energy plans. The hearings had come after much of the damage had been started, and it was unlikely that WEST would allow Interior to shut down all of its expensive equipment on Black Mesa. Still, the hearings were a major victory for the environmental movement: for the first time, a congressional committee had admitted that energy might have problems connected with it.

Prior to the Senate investigation, the All-Indian Pueblo Council called its own hearings and invited experts and Indians to submit testimony. The Interior Department and the BIA were invited to send representatives, and Black Mesa Defense arranged for Hopis and Navajos to testify. Meanwhile, the Defense Fund and I coordinated Indian testimony for two of the five Seante hearings. The newly formed Committee to Save Black Mesa brought Navajos from Shiprock, Chinle, Window Rock, and Black Mesa.

At the first set of Senate hearings in Albuquerque, William P. Reilly, president of Arizona Public Service Company, admitted there was a "pollution problem." But more important, said Reilly, was the "opportunity" being granted to "minorities" to "play an active role in our free enterprise system."[55] Jobs; electricity; royalties for the tribes. Isn't that worth a little pollution? Mike Williams of John Muir Institute and John R. Bartlit of New Mexico Citizens for Clean Air and Water dramatically illustrated part of the trade-off with pictures and statistics. Photos from the 1950s showed Shiprock, a sacred landmark in the heart of Navajo country, glistening in an ultramarine sky. Photos taken after the Four Corners power plant began operation showed Shiprock barely discernible in a gaseous haze. Quoting data on stack emissions, Williams observed that "we have emissions at Lake Powell alone comparable to major cities."[56]

After the last set of hearings, Secretary Morton announced a moratorium on the largest of the power plants on southern Utah's Kaiparowits Plateau. The plant, still in the planning stages at the time of the moratorium, was eventually canceled.[57] But Peabody continued to gouge and scrape at Black Mesa.

Opposition to the mine and power plants grew, on the Hopi and Navajo reservations and around the world. It seemed that Peabody was beginning to fear public opinion. In 1972, WEST issued a press release on behalf of the Hopi tribal chairman. The press release asserted that there were no shrines on Black Mesa and claimed that "our elders have told us that the Creator has placed valuable resources for us in the ground and that it is our obligation to discover the resources, and to use them for the benefit of man." The real justification for signing the leases was revealed later in the release: "We need cars from Detroit and manufactured goods from southern California. We must have something to sell them in exchange." The statement defended Peabody's lack of reclamation success and accused "some of our Elders" of criticizing the lease without reading it. It also attacked ABC-TV because it had done a story on Black Mesa without consulting Clarence Hamilton, the tribal chairman.[58]

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[54] Plaintiffs' Brief, pp. 14, 16.

[55] William P. Reilly, "Oral Statement for Presentation before the Subcommittee on Water and Power Resources of the Senate Committee on Interior and Insular Affairs on May 24, 1971, at Albuquerque, New Mexico," pp. 2–3, 8.

[56] Dr. John R. Bartlit, "Testimony before the Senate Committee of Interior and Insular Affairs, Senator Henry Jackson, Chairman, May 24, 1971—Albuquerque, New Mexico," in U.S. Congress, Senate, Committee on Interior and Insular Affairs, *Problems of Electric Power Production in the Southwest*, 92nd Congress, 2nd session (Washington, D.C.: U.S. Government Printing Office, 1971), Appendix, Part 7, p. 41.

[57] Alvin M. Josephy, Jr., "Kaiparowits—The Ultimate Obscenity," *Audubon*, 78, No. 2 (1976), 66–90; Helen M. Ingram and Scott J. Ullery, "Toward a Framework for Evaluating the Impact of Procedural Change upon Policy: The Case of the Kaiparowits Environmental Impact Statement," *Lake Powell Research Project Bulletin*, No. 53 (Los Angeles: University of California, Los Angeles, Institute of Geophysics and Planetary Physics, 1977), pp. 41–42; Kenneth R. Weber, *Local Demography and Economy in the Kaiparowits Project Area, Utah: The "Before" Story* (Logan: Utah State University, Institute for Social Research on Natural Resources, 1976).

[58] Wayne C. Evans and Lee Wheelock, "Hopi Tribal Chairman Defends Coal Mining on Reservation," press statement, Salt Lake City, 21 January 1972.

The hypocrisy was obvious: how could the elders read the lease when Hamilton, Peabody, and the BIA had made every effort to keep copies out of their hands? ABC-TV responded to the press release with an editorial blast: they had not been able to consult with Hamilton because he had refused to grant them an interview, despite their persistent attempts.

WEST's embarrassment on the publicity front was compensated by its success on the legal front. The twenty-three companies that comprised WEST joined Peabody as defendants, and their first success was a denial of injunctive relief requested by the Hopis. Next came a change of venue from Washington to Phoenix. This change removed the case from public notice and moved it into the energy companies' sphere of economic and political power. The lawsuit dragged on with negligible press coverage.

In 1972, the Committee to Save Black Mesa organized one of the most effective outreach events of the entire Black Mesa movement: it invited a delegation of Northern Cheyenne from Lame Deer, Montana to view the Black Mesa strip mine first hand. Alice Luna, Robert Salabye and Mitchell Fowler gave the Cheyennes a guided tour of the dusty, filthy mess. By this time, the trenches were deeper, more land had been gouged, and more Navajos had been forced to move.

Black Mesa Defense raised funds to bring international attention to the strip mine. Several Hopis traveled to Stockholm to participate in meetings and press conferences held at the same time as a United Nations conference on ecology and environment. The Hopis and the Black Mesa Defense Fund were well received in Europe, but the anticipated international movement and increase in funding did not materialize. The participants returned demoralized and penniless. Some had sunk their savings into the Black Mesa protest; all had debts. It was the end of the Black Mesa Defense Fund.

Things got worse. Within the next year, the Phoenix court ruled against the Hopis. There were told they were not the proper people to file the suit. The opinion was demeaning to the Hopi elders. It was so offensive that even the Peabody lawyer was embarrassed, and he requested the judge to delete his remarks from the record. The judge obliged.

The Committee to Save Black Mesa also expired. Its last success was to persuade the Los Angeles City Council in 1973 to call for environmental protection of Indian land and air. A one-day demonstration by the American Indian Movement on Black Mesa in October 1974 sparked hostility from mine workers and cries of "outside interference" from some Black Mesa residents and from Prescott College archaeologists who were salvaging what they could of the Hopis' ancient burial grounds and shrines. By the time Suzanne Gordon and Alan Copeland's *Black Mesa: The Angel of Death*[59] appeared in bookstores, nobody was interested. BIA headquarters in Washington had been occupied, and Wounded Knee had captured the media's attention. Many environmental magazines were defunct, and the Sierra Club was worried about Havasupai Canyon.

When the final blow came, in 1975, no one noticed. In a terse opinion, the Ninth Circuit Court of Appeals upheld the lower court's decision on the basis of a technicality known as "indispensable parties." The Hopi Tribal Council, said the court, was an indispensable party to any suit regarding Black Mesa because it had signed the lease. The Council had to be either a plaintiff or a defendant. The Council was not a defendant because, under federal law, an Indian tribal council cannot be sued unless both the council and Congress give permission. And the Council could not have been a plaintiff because the basis of the plaintiffs' case was a challenge to the authority and representativeness of the Council itself. On appeal, the Supreme Court refused to hear the case.[60]

### Black Mesa Today

When pressed to say something about Black Mesa, Stewart Udall once remarked, "You can't unscramble eggs!"[61] If you are the Secretary of the Interior, and the eggs are Indians, you can turn the heat up or down; put the lid on or take if off; use a spatula, fork, or beater. But you will always end up scrambling them.

I returned to Black Mesa in 1977 and also visited some Hopi friends. Every time I brought up the subject, the most active participants in the struggle grew silent, morose, contemplative. They did not wish to discuss the situation. One man told me frankly of his feelings of defeat: "We did everything we could. We tried going into court and that failed. We didn't get nothing out of it. There's nothing you can do now."

On Black Mesa, some Navajos have not yet been compensated for Peabody's destruction of their land and life, although a lawsuit filed by DNA-Peoples' Legal Service brought a ruling that Peabody must pay damages. During construction in 1973, all Black Mesa industries employed 440 Navajos out of a total work force of 2,200.[62] By 1977, the work force was reduced to 360, of whom 300 were Navajos and two Hopis.[63] Navajo charges of discrimination during construction of the Page power plant led to unionization there in 1970. Despite the unions, there have been some industrial accidents at Black Mesa and conflicts with Navajos from other areas who have moved in to take jobs.[64]

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[59] Suzanne Gordon and Alan Copeland, *Black Mesa: The Angel of Death* (New York: John Day, 1973).

[60] *Wassaja*, 3, No. 3 (1975), 8; *Wassaja*, 3, No. 7 (1975), 3; *Wassaja*, 4, No. 5 (1976), 7.

[61] Stewart Udall, as quoted in Dan Budnik, "Black Mesa: Progress Report on an Ecological Rape," *Art in America*, July-August 1972, p. 105.

[62] D. G. Callaway, J. E. Levy, and E. B. Henderson, "The Effects of Power Production and Strip Mining on Local Navajo Populations," *Lake Powell Research Project Bulletin*, No. 22 (Los Angeles: University of California, Los Angeles, Institute of Geophysics and Planetary Physics, 1976), p. 11.

The Hopi Tribal Council's yearly income from Peabody's operations has jumped to over $900,000 as a result of increased production and rises in royalty rates commensurate with increased market prices.[65] The present tribal chairman does not favor mineral leasing, but the Council has authorized at least three energy companies to conduct resource inventories and explorations on the reservation.[66]

The reseeding program is dismal. Peabody boasted in 1971 that, as part of its reseeding program, it was filling in trenches, contouring mined areas, and planting perennial grasses. Two years later, an unusually heavy snowfall and a wet spring generated a green carpet of rye, wheatgrass, and clover, none native to the area, but all doing well.[67] Then some Navajo sheep came along and ate the vegetation. The Hopi Tribal Council and Peabody's range consultant consider the Navajo and their sheep to be a pesky problem. Since 1973, the "restored" area has been totally bare, a shockingly nude canvas of dust. A report to the Ford Foundation, under sponsorship of the National Academy of the Sciences, concluded that land reclamation in arid areas such as Black Mesa may take at least 300 years, and may not be possible at all.[68]

John Thames, professor of range management at the University of Arizona in Tucson and unpaid consultant to Peabody's restoration project, is skeptical about the future possibilities of grazing sheep on the strip-mined areas. In a 1977 interview, Thames told me, "That area is severely overgrazed now. Without range management, restoration efforts are not likely to be successful. We could grow snakeweed and juniper up there; they are native to the area. But the Navajo Tribe doesn't want that. They want grass." Abbott Sekaquaptewa, Hopi tribal chairman, told me in 1977 that he also wants grass.

John Thames says the minespoil is not toxic. Runoff is no problem for growing plants, be they corn or tumbleweed. But six years after the restoration efforts began, the recontoured areas are bare and gray. Thames is supervising Peabody's latest attempt to comply with the "tough" regulations it voluntarily agreed to follow, installing irrigation pipes and elaborate sprinkling systems. According to Thames, Peabody may even have to truck in tons of topsoil; the thin layer that had been there was totally destroyed by "the ordinary wear, tear, and depletion incident to mining operations."

The Page and Four Corners power plants continue to pollute the air. Pollution traceable to the Four Corners plant cut the amount of sunlight at Flagstaff—over 200 miles southwest of the plant—by 15 percent between 1965 and 1970.[69] No one knows how much more pollution cover has been added by the Page plant, or what the effects of this pollution are on Navajo and Hopi health. Navajos live within yards of the power plants, and respiratory diseases and complications are already endemic in their communities.[70]

What we do know is that health hazards to human beings from sulfur dioxide, nitrogen oxides, and particulates are cumulatively severe. Adverse health effects result when the annual average level of sulfur oxides exceeds 0.03 parts per million (ppm) and when daily averages exceed 0.11 ppm for more than three days a year. When coal dust reaches a concentration of 300 micrograms per cubic meter of air and sulfur dioxide levels increase to 0.20 ppm, chronic bronchitis patients are likely to suffer acute worsening of symptoms. When the daily average concentration of coal dust reaches 750 micrograms per cubic meter of air, along with a sulfur dioxide concentration of 0.25 ppm, excess deaths and a considerable increase in illness can be expected. A mean concentration of only 0.04 ppm of sulfur dioxide will, over a year's time, cause an overall increase in mortality.[71]

A study by the University of Florida in 1969 disclosed that within eighteen miles of the Four Corners plant at Fruitland, there were sulfur dioxide concentrations greater than 0.25 ppm. Within two miles of the plant, sulfur dioxide concentrations were nearly 1.00 ppm and coal-dust particulates were 850 micrograms per cubic meter of air. Within twelve miles of the plant, the sulfur dioxide concentrations were 0.50 ppm and coal-dust concentrations were 300 micrograms.[72] The U.S. Environmental Protection Agency has monitoring devices on the stacks of the Four Corners and Page plants. But is anyone doing systematic studies of the effects of the emissions on peoples' health? Will clusterings of leukemia and abnormal rates of other cancers have to appear before Interior Department officials become concerned? Will WEST officials ever become concerned?

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[63] Statistic supplied to me in 1977 by Jim Hendricks, mine foreman.

[64] Lynn A. Robbins, "Navajo Participation in Labor Unions," *Lake Powell Research Project Bulletin*, No. 15 (Los Angeles: University of California, Los Angeles, Institute of Geophysics and Planetary Physics, 1975).

[65] "Hopis Hurt by Coal Strike," Qua-Tõqti, 2 March 1978, p. 1.

[66] Laboratory of Native Development Systems, Office of Land Studies, *Natural Resources Map of Hopi Indian Reservation and Joint Use Area* (Tucson: University of Arizona, 1977).

[67] Jim Bishop, "Environment: Big Dig at Black Mesa," *Newsweek*, 8 February 1971.

[68] Environmental Studies Board, *Study Committee on the Potential for Rehabilitating Lands Surface Mined for Coal in the Western United States* (Cambridge, Mass.: Ballinger, 1974).

[69] "Air Pollution Cuts Sunlight," *Navajo Times*, 26 November 1970.

[70] Walsh McDermott, Kurt W. Deuschle, and Clifford R. Barnett, "Health Care Experiment at Many Farms," *Science*, 175 (1972), 23-31.

[71] U.S. Congress, Senate, Committee on Public Works, 91st Congress, 2nd session, Report No. 91-1196, 17 September 1970 (Washington, D.C.: U.S. Government Printing Office, 1970), p. 1; Neil Fabricant and Robert M. Hallman, *Toward a Rational Power Policy: Energy, Politics and Pollution* (New York: George Braziller, 1971), p. 17; U.S. Department of Health, Education, and Welfare, pp. 70, 73.

Peabody continues to suck water out of the ground. Navajos claim that one of the deep wells cracked and had to be closed; they say a new one was drilled, but the current Peabody mine manager knows nothing about it. The U.S. Geological Survey (USGS) has been monitoring the effects of the pumping. Testings of wells along the northeastern periphery of Black Mesa from April 1972 to April 1973 indicate that water levels did fluctuate in response to local pumping, although water levels in the five wells tested did not decline overall. The USGS geologist concluded that, over the thirty-five-year period of pumping, the Peabody wells were bound to interfere with other wells used by Indians in the area.[73] In any other part of the country, the industrial use of such huge quantities of water would be condemned as environmentally suicidal.

Black Mesa is certainly an environmental disaster and an environmentalist defeat. But it is more than that. The Black Mesa dispute revealed a great deal about the BIA and the Department of the Interior. The BIA took a subordinate population of intimidated subjects in 1935 and constructed a political system that not only was foreign to them but also made Hopis participate in a process—voting—that they could not even exercise in the state of Arizona until 1948. When the BIA's political system failed, the Bureau merely revived it by putting pressure on Hopis and conferring legitimacy on the Tribal Council in defiance of documented Hopi opposition. The BIA orchestrated leases for energy developements that were crucial to corporate, not Hopi, goals. The BIA further insured the Tribal Council's invulnerability by authorizing monetary support from lease income and legal support from the courts.

The issue of informed public participation in decision making, whether the public be Indian or Anglo, was central to the Black Mesa dispute. Historian Alvin M. Josephy, Jr. put it well: "All the planning, testing, negotiations, and lease and contract signings associated with the different elements of the huge power complex were carried out so quietly that they provide a classroom example of how serious has become the lack of accountability by government agencies working hand-in-glove with industry in the United States today."[74] Interestingly, Harrison Loesch, formerly the Interior Department's liaison with the BIA, is now a vice-president of Peabody Coal Company.

Following the Interior Department's example, the Hopi Tribal Council also kept the energy plans from the Hopi people. Once some details were known, the Tribal Council, the Secretary of the Interior, and WEST manipulated the situation in order to protect Peabody's and WEST's interests. A simple exercise of the Interior Secretary's fiat voided such supposed "safeguards" as certification, amendment procedures, and land protection written into the Hopi Constitution. The Hopi Constitution was used as a pivot to turn Hopi land into a safe corporate feeding ground.

To me, one of the most astonishing expressions of racism was the total refusal of the U.S. legal system to admit challenges to the Secretary of the Interior's absolute power to set the rules of Indian life. Would anyone in white America take seriously the actions of an American city council on which several of the city's wards were totally unrepresented? Would anyone take seriously the actions of a "government" that could be mandated powers that were supposedly forbidden to it by the people it purported to represent, totally without regard for its written charter? What kind of a legal system refuses to admit a petition for redress of grievance on the basis of perverted and twisted logic that requires the petitioners to be some of the very people who are responsible for the grief? It was insulting, ethnocentric, and racist for the court to refuse to hear a petition simply because the petitioners were not playing the "game" by the rules of the court's own culture.

Although the goals of the traditionalist Hopis and their environmentalist allies were defeated by legal technicalities, it is possible that the Black Mesa issue has had repercussions that will turn out to have lasting effects. The National Indian Youth Council (NIYC) took up the cause of opposing further degradation of earth and air when it initiated legal action against seven coal-gasification plants proposed for the Navajo reservation. This action followed closely the last burst of anti-Peabody activity in 1973. Despite no ostensible connection between the two environmental movements, it is possible that NIYC's action was, in part, inspired by the consciousness created through the Hopi and Navajo environmental movements.

A year after the Northern Cheyenne delegation visited Black Mesa at the invitation of Committee to Save Black Mesa in 1972, the Northern Cheyenne Tribal Council moved to cancel all energy leases and initiated a comprehensive survey of all aspects of the energy issue on the Northern Cheyenne reservation. The Navajo Tribe set up an Environmental Protection Commission in response to the Navajo agitation about Black Mesa and the Four Corners Power Plant, and this commission recently made news by being the first regulatory body in North America to slap a tax on pollution.

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[72] U.S. Department of Health, Education, and Welfare, p. A(5).

[73] E. H. McGavock and Gary W. Levins, "Ground Water in the Navajo Sandstone in the Black Mesa Area, Arizona," in *Guidebook of Monument Valley and Vicinity: Arizona and Utah*, ed. H. L. James (Albuquerque: New Mexico Geological Society, 1973).

[74] Josephy, "The Murder of the Southwest."

Certainly industrial America's triumph on Black Mesa brought the Hopi and Navajo closer to the metropolis in an economic sense,[75] and only a fundamental change in the metropolis will effect the true liberation of Hopi and Navajo peoples.[76] But the Hopi have proved remarkably resilient and creative in resisting attempts to subjugate, control, and assimilate them despite their small population and despite their maintenance of conspicuously located settlements in the same places for over 700 years. In the Black Mesa issue, Hopi philosophy emerged as an ethic opposed to spiritual, as well as physical, pollution. That ethic has always been a wellspring of creativity from which the Hopi draw the symbols of resistance against challenges to their human dignity. Now, those challenges are stronger than ever. It is likely that in future, the Hopi will draw forth new symbols that express their commitment to a noncapitalist way of life.[77]

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[75] Joseph Jorgensen, "Indians and the Metropolis," in *The American Indian in Urban Society*, ed. Jack O. Waddell and O. Michael Watson (Boston: Little, Brown, 1971).

[76] I am grateful to Kathleen Frake for discussions that led to this observation.

[77] Richard O. Clemmer, "The Fed-up Hopi: Resistance of the American Indian and the Silence of the Good Anthropologists," *Journal of the Steward Anthropological Society*, 1, No. 1 (1969), 18–20.

# Energy Developments and the Navajo Nation

*Lynn A. Robbins*

Americans are increasingly realizing that their profligate style of material life depends on continued access to resources from the far corners of the globe. Petroleum, the base of North American industry, flows in vast quantities from the Middle East, Venezuela, Indonesia, and Nigeria; bauxite comes from Australia, Jamaica, and Canada, copper from Chile, bananas, coffee, and other resources from distant nations and continents. The steady supply of these materials requires good foreign relations, compliant governments, and technical, capital, and market advantages over suppliers.[1] These circumstances enable North Americans, Western Europeans, and the Japanese to maintain dominance in the capitalist world. Since 1973, when the Organization of Petroleum Exporting Countries (OPEC) exercised its growing political and economic strength, these vast and complex links between producer and consumer nations have received wide publicity.

Nevertheless, Americans are depressingly uninformed about the riches contained on Indian reservations and about the dependence of the American economy on Native American fossil fuels and other minerals. Nor are Americans aware of the ways in which corporations have treated Native Americans or the failure of the United States government to safeguard Indian natural resources. Few know of the ways in which Native Americans have responded to the claims made upon their lands, minerals, waters, and lives.

The Navajo Nation provides a classic case of the effects of recent energy developments on Native Americans. The Navajo reservation is located in portions of Arizona, New Mexico, and Utah. The largest Indian reservation in the United States, it comprises about 25,000 square miles and is approximately the size of West Virginia. On this land, once unwanted by the U.S. government and white settlers and apparently devoid of any resources, the federal government established a reservation for 10,000 Navajos in 1868. Since then the Navajos have steadily increased in number, and there are now 140,000 on the reservation, nearly 90 percent of the total tribal membership of 154,000. The Navajos outnumber all other native North American groups, and their population continues to grow at 2 percent per year, doubling every thirty-five years.

The Navajo Tribe experienced the effects of the American quest for energy resources early in its reservation history. With the growth of American industry and rising demand for petroleum, the expansion of the Western frontier exposed Navajo mineral wealth to the modern world. Treaties required tribal representation in resource sales contracts, and the federal government moved swiftly to meet this minimal requirement in order to open Navajo lands for resource exploitation. In the early 1920s, when the Navajo people were still agrarian and were just beginning to become engaged in wage labor, the U.S. government created a council composed of several prominent tribal leaders to represent the tribe in approving mineral leases. The Tribal Council, with the encouragement of the federal government, entered into a long series of oil, natural-gas, and helium leases, which have proved of enormous benefit to energy corporations and have provided the major source of income for the Navajo tribal government.[2]

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[1] Richard J. Barnet and Ronald E. Müller, *Global Reach: The Power of the Multinational Corporations* (New York: Simon and Schuster, 1974); Anthony Sampson, *Seven Sisters* (New York: Bantam Books, 1976); Richard Sklar, *Corporate Power in an African State* (Berkeley: University of California Press, 1975).

[2] David F. Aberle, "A Plan for Navajo Economic Development," in *Development Prospects and Problems*, Vol I, part 1 of *Toward Economic Development for Native American Communities*, U.S. 91st Congress, 1st session, Joint Economic Committee, Subcommittee on Economy in Government (Washington, D.C.: U.S. Government Printing Office, 1969); Lawrence C. Kelly, *The Navajo Indians and Federal Indian Policy, 1900–1935* (Tucson: University of Arizona Press, 1968); Lorraine Ruffing, "Navajo Mineral Development," *The Indian Historian*, 11, No. 2 (1978), 28–41.

Since the early 1950s, and particularly since the 1960s, the Navajo Nation has entered into extensive coal leases with several large coal companies and utilities. Contracts have committed huge quantities of Navajo coal for mining to at least the year 2000. Navajo energy resources now provide enough electrical power to maintain about 5 million American homes. Meanwhile, no more than 40 percent of all Navajo homes have electricity.

Despite the loss of vast reserves of fossil fuel, the Navajo reservation is still rich in natural resources. It has an estimated 100 million barrels of oil, 23 billion cubic feet of natural gas, 5 billion tons of coal, and 80 million pounds of uranium.[3] Income from the sale of mineral resources totaled $19 million in 1975.[4] Assuming a Navajo population of 200,000 and a rate of coal consumption of three tons per capita per year—the U.S. average—Navajo coal would last the tribe at least 800 years. These are very broad estimates, but they illustrate that the immense Navajo resources, if used by and for Navajos, would support the population far into the future.

Unfortunately, present economic conditions discriminate against the Navajos. Rather than use their resources for their own benefit, Navajos have sold huge quantities of them at low prices. These sales have been of dubious value to the Navajo people and have not permitted any serious move toward economic self-sufficiency. Unless the Navajo position in the world economy changes, resources will continue to be drained away, adding little to the well-being of the tribal population.

These circumstances are not the product of chance. Many social forces have brought about the expropriation of Navajo energy resources, and this essay will illustrate some of the ways in which this expropriation has affected Navajo economic, domestic, and political life. I shall provide some data about the Navajo economy and demography, describe recent energy developments on and near the reservation, and measure the effects of these developments on Navajo personal and tribal income and labor affairs. I shall then review some political responses by Navajo elected officials and local populations to energy projects and point out some directions the Navajo Nation seems to be taking in its plans for and against future energy schemes.

## Population, Employment, and Income

The Navajo population, like that of many poor nations, has a high proportion of young people; while the median age of the U.S. population was 30 years in 1972, that of the Navajos was only 17.5 years.[5] Average family size in 1973 was 5.6 members. These figures illustrate the extreme dependence of younger Navajos on their elders. The 1974 estimate of the on-reservation population was 140,002, with a possible error of plus or minus 10 percent.[6] Each year the Navajo population grows by about 3,000 people, whose support places an additional burden on the tribal economy. Without a major change in birth rates, Navajo population will approach 300,000 by the end of the century.

Health statistics reveal the persistent problems that Navajos suffer. Infant mortality among the Navajo is twice the national average. Although public agencies maintain six hospitals and a number of roving clinics, poor transportation, nutrition, and education impede major improvements in health. In 1972, only 8 percent of Navajo homes, compared with a national average of 82 percent, had standard indoor plumbing. About 40 percent of all Navajo homes in 1970 had one room each, and 21 percent had only two rooms. The 1970 census recorded 3,660 Navajo-owned dwellings, 3,000 of which were valued at less than $5,000 each; the median value for all Navajo-owned homes was just $3,100. While 15 percent of rural Southwestern roads were paved in 1972, only 6 percent of Navajo roads were paved. Although these conditions have improved somewhat since 1972 with the construction of new homes and highways, Navajo health and housing remain among the poorest in the Southwest.[7]

According to a Bureau of Indian Affairs (BIA) report, the Navajo labor force in 1975 was 61,182. Of these workers, about one-third held permanent jobs, one-fifth were underemployed, and more than four in ten were unemployed.[8] Table 1 categorizes on-reservation employment by economic sector. The disproportionate percentage of workers in service jobs—40.5 percent—reflects the unproductive nature of the Navajo economy; manufacturing, mining, and agriculture provide jobs for only one in ten employed workers, compared with a national average of one in four. About 8 percent of the workers employed on the reservation are in commercial trades, services, and tourism; the U.S. average is 44 percent. This comparison includes workers in wholesale and retail trade,

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[3] Ruffing.

[4] *Navajo Financial Statement* (Window Rock, Ariz.: Navajo Nation, 1975).

[5] U.S. Bureau of the Census, *Statistical Abstracts of the United States, 1972* (Washington, D.C.: U.S. Government Printing Office, 1973).

[6] Eric Natwig, *Overall Economic Development Program* (Window Rock, Ariz.: Navajo Nation, 1974), p. 18.

[7] *The Ten-Year Plan* (Window Rock, Ariz.: Navajo Nation, 1972), p. 3; U.S. Bureau of the Census, *U.S. Census of Population, 1970, Subject Report, American Indians, Report PC (2)-1F* (Washington, D.C.: U.S. Government Printing Office, 1973), p. 186.

[8] U.S. Bureau of Indian Affairs, *Labor Force Report* (Window Rock, Ariz.: Navajo Agency, 1975).

**TABLE 1**

*Distribution of On-Reservation Employment by Economic Sector, 1975*

| *Sector* | *Total Employed* | *Navajo (Number)* | *Navajo (Percent)* | *Percent of Wage & Salary Employment* |
|---|---|---|---|---|
| Services (Health, Education, and Nongovernment) | 9,955 | 6,932 | 70 | 40.5 |
| Government<br>Federal 1,295<br>Tribal 2,146<br>Other 1,407 | 4,848 | 4,346 | 90 | 19.6 |
| Construction | 3,490 | 1,983 | 57 | 14.1 |
| Wholesale and Retail | 1,758 | 1,262 | 72 | 7.1 |
| Transportation, Communication, and Public Utilities | 1,699 | 947 | 56 | 6.9 |
| Mining<br>Uranium 463<br>Coal 989<br>Oil and gas 129<br>Gravel 26 | 1,607 | 960 | 60 | 6.5 |
| Manufacturing | 1,022 | 970 | 95 | 4.1 |
| Agriculture | 177 | 161 | 91 | 0.7 |
| Finance, Insurance, and Real Estate | 127 | 94 | 74 | 0.5 |
| *Totals* | 24,683 | 17,655 | 72 | 100.0 |

*Source:* Thomas Glenn, *The Structure of Employment in the Navajo Nation* (Window Rock, Ariz.: Navajo Nation, 1976), p.6.

finance, insurance, and real estate.[9] As a further illustration of the dismal employment situation and the underdeveloped character of the Navajo economy, only 33 percent of the 171 retail businesses on the reservation are Navajo-owned. Counties bordering the reservation—McKinley and San Juan counties in New Mexico and Coconino and Navajo counties in Arizona—have two to three times as many retail businesses as the reservation, yet the reservation has two and one-half times as many people as Coconino County, the largest county adjacent to the reservation. In 1970, there was only one wholesale business on the Navajo reservation.[10]

Just as the Navajos subsidize the U.S. economy through their cheap sales of resources, they themselves are heavily subsidized by federal and state funds. Table 2 shows that, in 1972, funds from nontribal sources amounted to nearly $360 million. In the same year, Navajo personal income amounted to scarcely $850 per capita per year, and total tribal personal income was only $100 million. This excessive dependence on public monies, especially from the federal government, powerfully illustrates the extreme underdevelopment of the Navajo economy.

## Energy Industries and Tribal Income

Several new energy industries have brought enormous changes to the lives of the Navajo people. They collectively generate 5,900 megawatts of electrical power each year—enough to provide electricity for 5 million American homes. These projects are an important source of power for such urban centers as Tucson, Phoenix, Los Angeles, Las Vegas, and San Diego. Whether these developments will substantially aid the Navajo people and their tribal government in achieving economic self-sufficiency and a higher standard of living is open to question.

Table 3 shows that 1,308 Navajos were employed by energy-related industries in 1974. Although these workers comprised only 33 percent of the 3,936 people employed by these industries in 1974, Navajo employment has since fluctuated greatly. The 410 Navajo employees of the Bechtel Corporation who were building the Navajo Generating Station in Page, Arizona, were scheduled to conclude their work in 1977 when the last coal-burning unit of the plant was completed. By this time, however, the ratio of Navajo to non-Navajo workers in energy projects had improved considerably. While the total number of employees in

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[9] U.S. Bureau of the Census, *Statistical Abstracts of the United States, 1973* (Washington, D.C.: U.S. Government Printing Office, 1974), p. 363; Natwig, p. 24.

[10] Kent Gilbreath, *Red Capitalism: An Analysis of the Navajo Economy* (Norman: University of Oklahoma Press, 1973), pp. 12-15.

**TABLE 2**

*Sources of Public Funds, Navajo Reservation, 1972*

| *Source of Funds* | *Amount* | *Total* |
|---|---|---|
| Federal | | |
| Department of Agriculture | $ 375,000 | |
| Department of Commerce | 3,711,000 | |
| Department of Health, Education, and Welfare | 47,858,000 | |
| Department of Housing and Urban Development | 25,000,000 | |
| Department of Justice | 50,000 | |
| Department of Labor | 6,853,000 | |
| Department of the Interior (Bureau of Indian Affairs and others) | 170,478,000 | |
| Office of Economic Opportunity | 10,042,000 | |
| Indirect Federal Assistance | 73,000,000 | |
| Total Federal | | $337,367,000 |
| State, Regional, and Private | | |
| State Agencies | 9,700,000 | |
| Four Corners Regional Commission | 4,800,000 | |
| Religious, Charitable, Private Contributions | 7,400,000 | |
| Total State, Regional, and Private | | 21,900,000 |
| Tribal Investment Funds | | 45,900,000 |
| *Total Public Funds* | | $405,167,000 |

*Source:* Lorraine Ruffing, "Navajo Mineral Development," *The Indian Historian*, 11, No. 2 (1978), 28–41.

energy industries had declined to 3,000 by 1977, the number of Navajo employees had risen to 1,800.[11]

Despite this increase in employment, Navajo workers in the energy industries still comprise a small, prosperous elite—2.7 percent of the Navajo work force—whose incomes far surpass the Navajo average. Their earnings have not substantially increased the personal income of the tribe as a whole. Navajo wages from energy industries in 1974—$15,306,000—comprised about 13 percent of the estimated total 1972 Navajo income and added only $109 per capita to the annual tribal income. The 1972 *Navajo Ten-Year Plan* suggested that if the Navajo economy was to develop significantly, an income of $380 million per annum for the Navajo people would be required over a ten-year period. Unfortunately, wage income from industrial projects has, as yet, scarcely scratched the surface of Navajo poverty.

Just as wages from energy projects have added little to Navajo personal income, so also leases, royalties, rents, and bonuses have made only a meager contribution to the Navajo tribal treasury. It is difficult to determine the tribal treasury's total income in any single year from energy developments. Table 4 shows that one-time payments, all of which have been concluded, amounted to $1,060,100, and that in 1974 the Navajo Nation earned $2,514,802 from coal royalties, leases, rents, and rights-of-way. These figures do not include $6.8 million brought into the tribal coffers from oil and gas sales or a one-time payment of $6 million paid by Exxon Corporation for the right to explore for uranium in the vicinity of Shiprock, New Mexico. If we use 1974 as a sample year and exclude oil, gas, and uranium developments, we find that the total income of the Navajo people and their government from coal production and consumption amounted to $17.8 million; personal income from wages was $15.3 million, and the Navajo Tribe received approximately $2.5 million.

Unfortunately for the Navajo people, the State of Arizona will receive about $10.5 million per year in taxes from the operation of the Navajo Generating Station alone. This sum amounts to nearly two-thirds of the total income received from all coal and coal-related developments by the Navajo Nation. In July 1978, a federal court refused to rule against the Navajo Nation in its efforts to impose a possessory-interest tax on the Navajo Generating Station. If the

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[11] Eric Natwig, *Economic Development Options Available to the Navajo Tribe: Projections of Employment Effects of Major Economic Developments in the Navajo Nation, 1975–1990* (Window Rock, Ariz.: Navajo Nation, 1975).

**TABLE 3**

***Energy-Related Industries on the Navajo Reservation, by Number of Navajo Employees and Estimated Wages, 1974***

| *Industry* | *Number of Navajo Employees* | *Known or Estimated Wages* |
|---|---|---|
| Utah International | 303 | $3,636,000[a] |
| McKinley Mine of Pittsburgh and Midway | 11 | 132,000[a] |
| Black Mesa Mine | 180 | 2,160,000[a] |
| Kerr-McGee Uranium Mine | 12 | 144,000[a] |
| Morrison-Knudson–McKinley Mine (Railroad construction) | 21 | 252,000[a] |
| Navajo Generating Station (Maintenance) | 85 | 900,000 |
| Navajo Generating Station (Construction)[b] | 410 | 4,900,000 |
| Four Corners Power Plant (Maintenance) | 113 | 1,100,000 |
| Jelco (Construction of transmission lines for Tucson Gas and Electric) | 26 | 312,000 |
| M.M. Sundt (Construction and modifications of Utah International mine) | 35 | 420,000 |
| Jesco, Inc. (Construction and modifications of the Four Corners plant) | 35 | 420,000 |
| Black Mesa Pipeline | 20 | 240,000 |
| El Paso Natural Gas | 20 | 240,000 |
| Tucson Gas and Electric | 37 | 450,000 |
| Total | 1,308 | $15,306,000 |

[a]Estimate.

[b]Construction phased out in 1977.

*Source:* Eric Natwig, *Overall Economic Development Program* (Window Rock, Ariz.: Navajo Nation, 1974).

Navajos win this case, they will earn about $30 million each year from the plant.[12]

Even with this additional income, payments from these projects will not begin to develop a strong Navajo economic infrastructure that can function independently of a single natural resource. The Navajo Nation's recently developed goal of achieving a viable, self-sufficient economy cannot be achieved by the energy industries analyzed here as they now function in the Navajo economy. Indeed, the Navajo economy, as measured by personal and tribal income, is steadily losing ground each year in comparison with that of the United States.

## Labor Unions on the Navajo Reservation

Although the economic impacts of energy developments are depressingly slight, and even harmful, the introduction of huge energy projects has strongly affected Navajo labor relations with unions and federal agencies. We have little certainty about what would have happened to labor affairs on the Navajo reservation without these large energy projects. Elsewhere I have described how Navajo reactions to the Navajo Generating Station, the Black Mesa mines, and related projects have permanently altered Navajo labor affairs.[13] Here I shall summarize a series of labor incidents that was initiated by Navajos employed in energy projects and that greatly benefited Navajo workers. Most of the issues centered on Navajo preference in hiring and retention of Navajo workers on the job.

The Navajos have a long history of shunning unions. So great was their antipathy that in 1958 the Navajo Tribal Council passed a resolution outlawing union activities on the reservation.[14] This resolution was ultimately challenged by unions and the National Labor Relations Board, which forced the tribe into federal litigation in 1961. The tribe lost its case but for the next seven years remained in opposition to unions

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[12] "Minutes of the Navajo Advisory Committee, June 2, 1969," *Navajo Times*, 13 July 1978, p. A-13.

[13] Lynn A. Robbins, "Navajo Participation in Labor Unions," *Lake Powell Research Project Bulletin*, No. 15 (Los Angeles: University of California, Los Angeles, Institute of Geophysics and Planetary Physics, 1975).

[14] *Navajo Tribal Code*, Navajo Tribal Council Resolution CA-53-58, 2, August 26, 1958 (Window Rock, Ariz.: Navajo Nation, 1958).

**TABLE 4**

*Navajo Income from Royalties, Rents, Leases, and Bonuses of Selected Energy-Related Projects*

| *Project* | *Income Source* | *Estimated Annual Income* |
|---|---|---|
| One-Time Payments | | |
| Salt River Project | Payment to Navajo Community College | $ 250,000 |
| Tucson Gas and Electric | Payment to Navajo Community College | 150,000 |
| | Land purchase for transmission lines | 660,100 |
| Total One-Time Payments | | $1,060,100 |
| Continuous Payments | | |
| McKinley Mine | Coal royalties | (no estimate) |
| Utah International and Black Mesa Mines | | 2,078,802[a] |
| Navajo Project | Transmission line right-of-way, 25 years | 125,000 |
| Lake Powell and Black Mesa Railroad | Railroad right-of-way, 25 years | 108,000 |
| Salt River Project | Chair at Navajo Community College, 1969–1974 | 25,000 |
| Black Mesa | Subsurface water, 3,100 acre-feet per year, 35 years | 9,000 |
| Navajo Generating Station | Land leases | 169,000 |
| Total Annual Income from Continuous Payments | | $2,514,802 |

[a] 1974 estimate.

*Source:* Lynn A. Robbins, "The Navajo Nation and Industrial Developments: A Description and Some Recommendations," *Proceedings of the First Annual Navajo Energy Conference*, Tsaile, Ariz., 2 May 1977 (Los Alamos, N.M.: U.S. Department of Energy, Los Alamos Scientific Laboratory, 1977), p. 54.

for fear that unions would play an important role on the reservation and would undermine the strength of tribal political powers.

During the 1960s, the tribal leadership was cautious in its approach to unions; Navajos joined if they wished, but tribal leaders showed neither enthusiastic acceptance nor open hostility towards unions. Few sources of employment on the reservation required union membership, and Navajo workers, with some unspectacular exceptions, did not bother to become unionized. Most of the employed Navajos were in federal or tribal government service, sheepherding, or cattle raising. Between 1961 and 1971 Navajo union membership rose from about fifty to about 300, certainly an unimportant increase even in a seriously underemployed labor force.[15]

In the late 1960s and early 1970s, the labor picture changed abruptly. In 1971, Navajo workers at the Navajo Generating Station construction project charged employers with discrimination. The Bechtel Corporation, the Salt River Project, and other companies were accused of firing Navajos without reasonable cause and failing to give Navajos preference in hiring, as agreed in leases and contracts drawn up between the tribe and the companies. Special investigations conducted by the Interior Department's Office for Equal Opportunity, the Office of Federal Contract Compliance, and the Equal Employment Opportunity Commission found these allegations to be entirely accurate. During the disputes, with the assistance of legal-aid attorneys from the Office of Navajo Economic Opportunity, the Navajo workers organized the Navajo Construction Workers Association (NCWA). The NCWA eventually recruited nearly 2,300 workers. The association is entirely voluntary, requires no dues, has no enforcement powers, and serves to apprise Navajo workers of their rights according to the provision of contracts, leases, and Title VII of the Civil Rights Act of 1964, which calls for Indian preference in hiring at major projects on or near reservations. Under Title VII, an off-reservation project is considered "near" the

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[15] Raymond Nakai, personal communication, November 1973.

reservation, and therefore required to give Indians preference in hiring, if it is within daily commuting distance to and from the reservation.[16]

As a result of the actions taken by the workers and the support they received from federal offices, the Navajo Tribal Council established the Office of Navajo Labor Relations (ONLR). The ONLR has prepared specific guidelines for hiring, dismissals, on-the-job treatment, employment levels, promotions, and training of Navajos. These guidelines are now written into all new contracts drawn up between the tribe and companies, particularly in construction. Although there continue to be some major problems in the enforcement of these guidelines, Navajo workers have enjoyed many benefits from the ONLR and its new powers.

The Navajo Nation entered into an agreement with the AFL-CIO in 1974 to provide training programs for Navajos. Through this agreement the tribe hoped to provide union benefits to thousands of Navajos likely to be employed at seven proposed coal-gasification plants, owned by the El Paso Natural Gas Company and the Western Gasification Company (WESCO), in the Four Corners area. The Navajos also received some support from the AFL-CIO in the U.S. Congress in their land dispute with the Hopi Tribe, whose reservation is located in the heart of the Navajo reservation.

For their part, the unions hoped to make political inroads into the Republican stronghold of Arizona, the state in which most of the Navajo reservation is located and one notorious for its right-to-work laws. The AFL-CIO assisted the Navajos with a voter drive through its Committee on Political Education (COPE). The effort proved successful: Raúl Castro, the Democratic candidate for governor, was victorious in Arizona by only 4,000 votes, nearly equal to his margin of victory among the Navajo electorate.[17]

The Navajo Tribal Council chairman entered into the agreement to forestall needless opposition to unions on lower levels. He believed that this agreement would hasten Navajo training and provide workers with other advantages as members of a union. The chairman's unilateral action, however, precipitated angry responses from more than half of the seventy-four members of the Navajo Tribal Council.

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[16] *Indenture of Lease, Section 18, between the Navajo Tribe of Indians and the Navajo Co-Owners, September 29, 1968* (Phoenix, Ariz.: Salt River Project, 1968); U.S. Office for Equal Opportunity, *Special Investigation Report, Navajo Project, Page, Arizona* (Denver, Colo.: U.S. Department of the Interior, 1972); Thomas Brosé, director, Office of Navajo Labor Relations, personal communication, 1975.

[17] Ed Meagher, "Navajos Becoming Serious Factor in Politics," *Los Angeles Times*, 20 July 1975, p. 3.

**TABLE 5**

*Estimated Navajo Union Membership, Summer 1977*

| *Union* | *Navajo Membership* |
|---|---|
| Operating Engineers | 450 |
| Building Crafts and Skills Unions | 2,000[a] |
| United Mine Workers | 950 |
| Laborers Union | 1,650 |
| Railway Workers | 1,600 |
| Total | 6,650 |

[a]Includes 500 trainees and 150 apprentices.

*Source:* Thomas Brosé, director, Office of Navajo Labor Relations, personal communication, August 1977.

A special committee, formed by the chairman and the Council to work out the terms of the agreement, eventually resolved this internal political dispute.

As Table 5 indicates, Navajo union membership had increased substantially by 1977. Because of fluctuations in union membership and economic activity on and near the reservation and the inclusion of many off-reservation Navajo workers, the figures in the table are only rough approximations. Nonetheless, the total given here represents nearly 25 percent of all employed Navajos on the reservation. Approximately 300 Navajos join the building trade unions each year, much of their training sponsored by the AFL-CIO Human Resources Development Institute. As of the summer of 1977, an active period of construction, only 10 percent of the Navajos in skills unions and 25 to 30 percent of those in the Laborers Union were unemployed.[18] Presently 95 percent of employment on the Navajo reservation is in compliance with federal requirements for Indian preference in hiring, and these regulations have given the Navajo Nation extensive power in labor relations.

The extraction of energy resources is characteristically capital intensive and, without spin-off industries, has brought no major gains in employment to the general Navajo population. The relatively small force of skilled Navajo workers in these industries has formed an elite of comparatively high wage earners. The workers in the Page and Black Mesa projects, those most skilled and with the highest incomes, exhibited few allegiances to the tribe and were largely men who had gained skills off the reservation. They returned to the reservation to enjoy the benefits of construction work but planned to return to their previous residences, which ranged from towns bordering the Navajo reservation in Arizona to Utah, New Mexico, Colorado, California, and Oregon.

Nevertheless, these workers maintained strong ties with kinsmen on the reservation, frequently sending money to parents and in-laws and maintaining joint herds of cattle. These elite workers also participated in some traditional Navajo ceremonies. Thus, one cannot argue that, based on our limited sample of workers, wage-labor jobs that pay well inevitably destroy Navajo traditional practices.[19]

The Navajos now have a deep commitment to union training and recruitment programs that would have been unheard of before 1972. This commitment is indicative of Navajo problems that stem from their political powerlessness: the dependence on sources of political power outside their polity, the desperate need to satisfy the pressing demands of a cruelly neglected Navajo labor force, and the lack of direct access to resources, knowledge, and technology. Navajos are using unions and federal-government employment as a means of achieving job security, reasonable incomes, health-care coverage, and other benefits. The Navajo Nation views new jobs as an immediate sign of economic improvement. Along with its efforts to improve the terms of coal royalties, contracts, and leases, the formation of Navajo labor unions is an important strategy for improving economic conditions on the reservation.

## Responses to the Black Mesa and Page Projects

The Navajo people were never provided sufficient information about the industrial developments listed in Table 3. Members of the Anthropology Sub-project of the Lake Powell Research Project interviewed nineteen active or retired Navajo tribal councillors who had been involved in decisions about the Black Mesa and Page energy projects of the 1960s (see Table 6). Interviews were designed to record responses about the amount of information available to the Navajo Tribal Council, its committees, and the officers of the Navajo government. These interviews asked whether or not the Navajo political officials believed that their judgments about industrial projects were based on sufficient information, and whether or not they believed the Navajo political system was adequate to deal with the immense demands made on Navajo natural resources.

Black Mesa contracts were made in the 1960s with Peabody Coal Company, then a subsidiary of Kennecott Copper Corporation, and the Utah International Mining Company, now wholly owned by the General Electric Corporation. In both instances, the Navajo people were promised an unspecified but substantial

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[18] Brosé, personal communication, August 1977.

[19] Donald G. Callaway, Jerrold E. Levy, and Eric B. Henderson, "The Effects of Power Production and Strip Mining on Local Navajo Populations," *Lake Powell Research Project Bulletin*, No. 22 (Los Angeles: University of California, Los Angeles, Institute of Geophysics and Planetary Physics, 1976); Lynn A. Robbins, Donald G. Callaway, and Eric B. Henderson, *The Distribution of Industrial Jobs in Local Navajo Populations*, Lake Powell Research Project, MS (Bellingham: Western Washington University, 1978).

**TABLE 6**

***Navajo Tribal Councillors Interviewed about the Black Mesa and Page Energy Projects***

| *Councillor* | *Community Represented* |
|---|---|
| Lee Begay | Coppermine |
| Harold Drake | Navajo Mountain |
| Lewis Etcitty | Nenahnezad |
| Glenn George | Tuba City |
| Howard Gorman | Ganado |
| Benjamin Hogue | Burnham |
| Fred Johnson | Shiprock |
| Emmett Lefthand | Kaibeto |
| Charley Long | Mariano Lake |
| Edward Manson | Coppermine |
| Donald Mose, Sr. | Pinon |
| Raymond Nakai | Lukachukai |
| Andrew Nez | Tonalea |
| Donald Noble | Steamboat |
| Willis Peterson | Manuelito |
| Pete Riggs | LeChee |
| Edward Saganey | Kayenta |
| Raymond Smith | Houck (Lupton) |
| Rufus Walters | Tonalea |

*Source:* Lynn A. Robbins, "Navajo Energy Politics," *Lake Powell Research Project Bulletin*, No. 54 (Los Angeles: University of California, Los Angeles, Institute of Geophysics and Planetary Physics, 1978), p. 4.

number of jobs, and the Navajo Tribal Council was warned that if the Black Mesa coal was not soon used, it would become an obsolete fuel in the face of competition from nuclear power. The interviews revealed that the Council knew nothing of the value of coal, the extent of coal deposits on their own lands, alternatives to coal developments, or the possibility of raising coal prices through competitive bidding.[20] When asked by a Navajo councillor about his company's level of profit, E. C. DeMoss, an official of Utah International, replied:

> Mr. Chairman, the question has been asked, is the profit range—we've been asked this question before by various people in the Tribe, and have declined to make our figures public because we feel that in the best interest of the Tribe and in the best interest of ourselves that we don't want the power companies, we don't want our competitors to know what profit margin there is. The reason for this is, if they knew exactly what it would take to get new business, they might undercut us, and the power companies would put the squeeze on us and cut the price, and we think that the price is the lowest in the country, and that alone should indicate that the profit is a very reasonable and modest profit.[21]

This was not the only obstacle the Navajos faced. The Tribal Council was not given enough time to make sound judgments about leases, contracts, and rights-of-way. Nearly all those interviewed, particularly the councillors who had only a modest reading knowledge of English, reported that they did not have enough time to review the contracts. The companies and the tribe's legal counsel provided interpretations of contract language, but they were insufficient for most councillors. The majority who approved the contracts believed tribal revenues from coal sales and new jobs created by construction, maintenance, and mining would be worth the sacrifices.

They believed these sacrifices to be decidedly limited. There was little discussion of the disruption caused by incoming construction workers, a problem that at least two communities encountered after construction began on the Navajo Generating Station near Glen Canyon Dam in 1970 and 1971.[22] Little was known about air pollution, noise, land disruption, or terms and levels of Navajo employment in construction and mining.

The Navajo councillors realized the desperate need for a source of tribal income other than the dwindling reserves of natural gas and oil, the sales of which had paid 70 percent of the expenses of the Navajo government.[23] Some of the councillors saw coal as the only alternative to oil and natural gas. Further, the acquisition of new jobs for the Navajo work force held enormous appeal for the Navajo electorate. Since the establishment of the reservation, Navajos have had but three items of value to offer the larger capitalist society: their superb crafts, their largely unskilled labor, and their mineral, timber, and livestock resources.

The Navajo Nation also entered into an agreement in the 1960s with the Salt River Project. This Arizona-based public utility was reponsible for the construction and maintenance of the $600,000,000 Navajo Generating Station and related facilities, including a seventy-five-mile electric railroad from Page, Arizona, to the base of Black Mesa. As part of this accord, the Navajo Tribe agreed to waive its rights to 50,000 acre-feet of Lake Powell water—15.750 billion gallons per year—in order that the Navajo Generating Station and the town of Page would have adequate water for the power plants and the new population expected as a result of construction, maintenance, and other needs. The Navajos also agreed to sell Peabody Coal Company 3,000 acre-feet of subsurface water at Black Mesa for a coal-slurry pipeline, an engineering marvel designed to transport coal mixed with water under high pressure. The pipeline would conduct coal 275 miles from Black Mesa to the Mohave Generating Station, a 1,580-megawatt plant in Nevada near the small town of Bullhead City, Arizona. For this large quantity of clean, precious, irreplaceable fossil water, the Navajo Nation would receive a paltry annual sum of $9,000.

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[20] Lynn A. Robbins, "Navajo Energy Politics," *Lake Powell Research Project Bulletin*, No. 54 (Los Angeles: University of California, Los Angeles, Institute of Geophysics and Planetary Physics, 1978); Ruffing.

[21] E. C. DeMoss, representative of the Utah International Mining Company, recorded in the minutes of the Advisory Committee, Navajo Tribal Council (Window Rock, Ariz.: Navajo Nation, 1966), p. 746.

[22] Robbins, "Navajo Energy Politics."

[23] The chief unit of Navajo government is the Tribal Council, which consists of seventy-four councillors from 102 Chapters. The Chapters are local political units established by the U.S. government.

When the agreements were signed, members of the Navajo Tribal Council believed that their decisions were reasonable based on the information then available to the tribe. For example, the Navajos would be allowed to make a claim on the Lake Powell water in the first decade of the next century, once the Navajo Generating Station had outlived its usefulness. In retrospect, however, Navajo officials have come to view several provisions of the agreements as grave errors. The interviewed councillors, for instance, did not know how much money the tribe had received for the Black Mesa water, but they strenuously objected to its present use for the coal-slurry pipeline.

Reviewing the history of energy contracts and leases, the nineteen councillors interviewed, although not well informed about the amounts of revenues received by the tribe from these agreements, were convinced that tribal income and employment were disappointingly meager. Legally there is little the Navajos can do about the give-away prices of coal and water, although they could resort to a forcible shutdown of mining and pumping. The Northern Cheyenne have successfully argued that the Department of the Interior failed to inform them adequately of the legal, financial, and labor conditions under which they entered into their contracts and leases. This alternative had not occurred to those Navajos interviewed; a majority believed that contracts should be renegotiated, but they did not know how to go about it. The first renegotiations between the Navajo Nation and Peabody Coal and Utah International did not begin until the summer of 1978. The Navajo Nation has asked for higher prices per ton of coal, but no agreement has yet been reached.[24]

## Responses to Coal Mining in the Burnham District

The passive responses of the Navajo Tribal Council to the industries in Page and Black Mesa stand in sharp contrast to recent reactions to proposed energy developments on the far eastern border of the Navajo reservation. No one is certain of the precise extent of the coal and uranium deposits that lie beneath Navajo, Bureau of Land Management, and private properties in the high table lands of the Four Corners area. Utah International is already mining more than 20,000 tons of coal each day from an immense deposit on the Navajo reservation, and uranium mining companies are removing ore from the Four Corners region near Shiprock and Crownpoint, New Mexico.

In 1968, El Paso Natural Gas Company and Consolidation Coal Company drew up a lease for the mining of coal from the Burnham district in the Four Corners area of the Navajo reservation. The companies had not begun mining by 1975, and according to the provisions of the lease, the agreement would become void unless the companies commenced mining before 1978. In 1975, the two companies and some Navajo officials drew up a new lease, to be effective in 1978, which called for the mining of more than 800 million tons of coal in the next thirty years. The companies were to pay the Navajo Tribe more than $450 million during this period. There were also provisions for the employment of Navajos, environmental safeguards for land reclamation, and compensation for Navajo families whose homes stood in the path of the mining operations.[25]

In the early 1970s, El Paso Natural Gas Company and Western Gasification Company (WESCO) made plans to develop a massive complex of seven coal-gasification plants. The construction and maintenance of these plants would require thousands of workers and a new town of 30,000 inhabitants on or near the reservation. An undertaking of such immense proportions would have necessitated expenses far beyond the reach of the Navajo Nation. By 1975, opposition to the projects had arisen among residents of the eastern part of the reservation who were concerned about the terms of the 1968 mining lease and the social and environmental effects of the proposed coal-gasification projects.

Leadership of this opposition came from the Shiprock Research Center in Shiprock, New Mexico, the most populous community on the reservation. The Center was established in 1973 by Harris Arthur, a Navajo and former student of economics and agronomy at Arizona State University in Tempe. Arthur was concerned about the seven proposed coal-gasification plants in the Four Corners area, and he wished to serve the local Navajo residents as a source of information about the effects these projects might have on the communities in the area. The Center collected reports and other bibliographical material pertaining to resource developments on the Navajo reservation, particularly in the Four Corners region. The Center was an apolitical organization supported by foundation grants. It had five to ten staff and field researchers and received legal interpretative aid from DNA–People's Legal Services, Inc., and consultative aid from sociologists and anthropologists.

In investigating proposed energy projects in the

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[24] "Negotiations Smooth between Tribe and Utah," *Navajo Times*, 8 June 1978, p. 16.

[25] *El Paso Natural Gas Company–Consolidation Coal Company–Navajo Nation Lease* (Window Rock, Ariz.: Navajo Nation, Energy Resource Division, 1975).

Burnham district, the Shiprock Research Center examined legal aspects of water allocation from the Colorado River and its major tributaries and conducted household surveys to collect social and economic data and to record attitudes toward the projects. These surveys indicated that local residents were dissatisfied with existing and proposed energy developments but generally uninformed about company plans. To apprise local populations of impending coal and uranium developments, the Center reached out to communities, such as Crownpoint, Dalton Pass, and Pueblo Pintado, south of the Four Corners area. The Center also printed a newsletter and conducted meetings to inform Navajo tribal councillors and Chapter officers of the findings of the household surveys.

The chairman of the Navajo Tribal Council wished to develop energy resources in 1975, but he encountered serious opposition in the Burnham district. On several occasions, members of the Burnham Chapter and residents in the neighboring Nenahnezad and Shiprock Chapters voted against plans to construct coal-gasification plants and to expand strip mining in those areas of the reservation.

At the same time, members of the Tribal Council, particularly those dissatisfied with the earlier Page and Black Mesa developments, were also becoming concerned. They noted that, unlike the original lease, the renegotiated lease of 1975 failed to give the Navajo Tribal Council the power to declare when the companies would commence strip mining. The Tribal Council had been increasingly uneasy about the chairman's unilateral agreements with companies and unions, and it wished to retain the power to reject or approve industrial projects. When members of the Council were informed that its powers would be jeopardized by certain provisions of the lease, they promptly rejected the lease in the form in which it was presented.

The Shiprock Research Center contacted most of the seventy-four Navajo tribal councillors to inform them of the details of the proposed new lease and to cite weaknesses in the original lease that could be corrected in the future. Members of the Center received assistance in this effort from attorneys of DNA–People's Legal Services, Inc. Approximately two weeks before the lease-renewal vote, an informal poll taken by the councillor from Shiprock found that the councillors' sentiments toward lease renewal were roughly one-third in favor, one-third opposed, and one-third undecided.[26] Finally, during the fall Council session in October and November 1975, the Council formally rejected the proposed lease by a vote of forty-one to zero, with thirty-three members absent.

In the summer of 1976, the Council approved a revised strip-mining lease by a vote of forty-nine to eleven, with fourteen absentees. Many of the points of contention contained in the first lease were corrected in the one approved. Coal from the mine would go to the new steam-powered electrical generating plant near St. Johns, Arizona. Coal could also be used for an El Paso Natural Gas coal-gasification plant if such a plant is approved by the Navajo Tribal Council, the Department of the Interior, and other concerned institutions.

As of 1978, however, the opposition of local residents and tribal councillors had delayed the El Paso Natural Gas and WESCO coal-gasification projects. This resistance to impersonal, high-technology energy industries marks a new period in Navajo history. No longer can companies treat the Navajo people with cavalier scorn and disdain, as they once did.

The actions of the Shiprock Research Center were particularly important in the growth of this movement. For the first time, the Navajo people had a research facility free of ties with the tribal and federal governments, which provided them with the resources to make informed decisions. There is no question that the efforts of the Center affected the Navajo response to energy developments. Unfortunately, when two members of the Center accepted employment with the federal government in 1977, the organization disbanded. Although the demise of the Center is a loss for the Navajo people, similar independent energy research offices have been established on the Crow and Northern Cheyenne reservations.

## Local Responses to Energy Development

The Navajo political system obviously faces great difficulties in the midst of new energy developments. Navajos are now aware of how these industries affect local communities, and they do not hesitate to register their opposition. The Navajos in the Four Corners area and to the south in the Crownpoint region have maintained a strong antidevelopment position. By mid-June 1978, virtually all of the Chapters affected by new and proposed developments had voiced strong opposition. These Chapters have little means of expressing their dissent in the Navajo political system other than by passing Chapter resolutions putting the tribal administration on notice that they want little to do with energy developments. Table 7 summarizes four local responses to energy projects in the first half of 1978.

The American Indian Movement (AIM), operating from an office in Albuquerque, New Mexico, has played an important part in assisting local Navajos with problems resulting from energy projects. AIM bitterly opposed the Black Mesa mines from the very outset, realizing that the scattered population of

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[26] Fred Johnson, personal communication, 1975. The late Mr. Johnson was a Council representative from Shiprock.

**TABLE 7**

*Local Navajo Responses to Energy Projects, January–June 1978*

| *Reservation Chapter or Community* | *Energy Project* | *Community Response* |
|---|---|---|
| Star Lake, New Mexico | Strip mining | Unanimous Chapter vote denies coal companies permission to transport coal over Chapter lands |
| Shiprock, New Mexico | Exxon-Navajo uranium mine | Unqualified opposition |
| Aneth, Utah | Texaco, Phillips, Superior, Continental oil wells | Protest loss of local petroleum resources, lack of direct benefits from petroleum sales to Navajo Tribe, community and environmental disruption by company workers |
| Dalton Pass, New Mexico | Uranium mining | Resolution calling for a halt to uranium developments |

*Source:* "Wherever There Is Energy Developments, There Also Seem to Be Grassroots' Opposition," *Navajo Times*, 15 June 1978, pp. B-17–18.

Navajo sheepherders on the mesa would suffer from the effects of mining and that more than fifty family groups would be forcibly relocated with meager compensation. AIM succeeded in uniting the local population behind a move to close the mine for a few days in 1975 to halt the desecration of Navajo burials. This action resulted in the establishment of the Black Mesa Review Board, an organization composed of tribal, local, and company officials that attempts to handle problems arising from strip mining.

Responses of local communities to energy development in 1978 demonstrate their awareness of the process by which they are exploited and abused. The residents of Dalton Pass, for example, passed a resolution protesting the deleterious effects of uranium mining: danger to the health and well-being of humans and livestock from air, water, and land contamination; unwanted influx of outsiders; stress on local services and facilities; disrespect toward Navajos and their culture by non-Indians; and possible destruction of Navajo sacred sites.[27]

Grass-roots dissension also surfaced at Crownpoint, New Mexico, where forty Chapter members signed a petition requesting that Chapter officials and the Navajo Tribal Council be given access to all information about proposed energy developments. The petition argues that the tribal government, without consulting local Navajos, has begun to plan massive projects for resource development that will have drastic impacts on their land and quality of life. The signers of the petition asserted that the executive branch of the Navajo government has manipulated the Tribal Council to achieve its own ends and that its plans for selling resources are short-sighted. The petition called for tax programs favoring the Navajo Nation as part of all energy schemes and the renegotiation of all mineral leases to include better environmental safeguards.[28]

The most bitter protests to date have been waged by Aneth and Montezuma Creek residents against Texaco, Phillips, Superior, and Continental Oil. Since the 1950s, these companies have held ninety-nine-year leases to exploit Navajo petroleum reserves; they now produce 22,000 barrels of oil per day, paying royalties to the Navajo government in Window Rock, Arizona. Early in 1978, a Navajo family complained that employees of one of the oil companies, allegedly attempting to steal a goat, fired shots over the head of a Navajo boy who had seen the thieves. Prompted by members of the American Indian Movement, the Coalition of Navajo Liberation (CNL), headquartered in Shiprock, New Mexico, and more than 100 local residents signed a petition that made thirteen specific demands of the oil companies.

In April 1978, the CNL and local people occupied and shut down all oil operations in the Aneth oil field. The occupiers, including children and old people, were supported by their fellow Chapter members, and neighboring communities provided food and money. Peter MacDonald, chairman of the Navajo Tribal Council, also voiced his support of the takeover. AIM passed the leadership of the protest into the hands of local people and thereafter served only to provide security for the protesters. A local Navajo resident described the feelings of the protesters in the following terms:

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[27] "Wherever There Is Energy Developments, There Also Seem to Be Grassroots' Opposition," *Navajo Times*, 15 June 1978, pp. B-17–18.

[28] "Wherever There Is Energy Developments."

> When the oil companies first came, the people were told that they didn't have any choice in allowing the drilling to start. The people were uneducated and did not know any better. They were told that it wasn't their land, but the federal government's. Now people know better and are starting to fight back. We are standing up for the first time and speaking for ourselves. And the young people and the old people are working together; they are united in fighting the company. . . . At night, we sit around together and the old people tell how many of the problems got started.[29]

Subsequent meetings were held by representatives from the tribe, the companies, and local communities. The four oil companies agreed to Navajo demands for land reclamation; prohibition of firearms and liquor among company employees; protection of Navajo burial sites; compensation for loss of livestock; Navajo preference in hiring; a scholarship fund of $5,000 from each company in order for Navajo students to pursue careers in petroleum; and the provision of electricity and natural gas to local residents. The companies, however, would not agree to renegotiate their contracts, and it is not known whether or not the Navajo Tribe will use royalties received from the oil companies to provide services to the residents of the Aneth area.[30]

Incidents such as these are inevitable on the Navajo reservation as AIM and the CNL help to increase the knowledge of local residents, who are becoming more aware of energy developments and more skeptical of the conduct of energy companies. Residents from Dalton Pass argued that the lessons learned from Navajo experiences with extant energy projects were all too clear: local communities paid the costs and received few of the benefits.

## Tribal Responses to Energy Development

The Navajo Nation has recently created several innovative offices to examine proposals for energy projects and assess their impacts. The most productive of these is the Office of Program Development (OPD), which in turn has established a host of important units in the Navajo government. One of these units is the Office of Finance Policy Analysis (OFPA), charged with providing information, policy analysis, training, and technical assistance for elected officials of the Navajo Nation to enable them to make and execute financial policy according to agreed-upon tribal goals. The OFPA also reviews and coordinates plans for federally assisted programs and projects in order to assure their conformity with these goals. OFPA can remedy several of the legislative problems identified by Navajo tribal councillors in their interviews with members of the Anthropology Sub-project of the Lake Powell Research Project. OFPA activities allow budget and policy reviews by tribal councillors, who, as a result, have greater access to information and more opportunity to affect policy than in the past. The OFPA will help the Navajo Tribe develop coherent guidelines in dealing with companies, government agencies, and other outside interests.[31]

The Office of Program Development is now divided between two offices, Economic Development and Community Development. The OPD has also incorporated the old Office of Minerals Development to form the new Energy Resource Division, which will consolidate under a single office many of the research development plans for the Navajo Nation. In addition to the OFPA, the OPD has created the Environmental Protection Commission (EPC), modeled after the U.S. Environmental Protection Agency; the Office of Navajo Labor Relations (ONLR), patterned on the U.S. National Labor Relations Board (NLRB); the Office of Social Services; the Criminal Justice Planning Commission; the Manpower Administration, now the Office of Labor; and the Office of Navajo Small Business Development. The Environmental Protection Commission was recently supported by a federal court in its effort to impose a sulfur-emissions tax on the Four Corners power plant.

On the local Chapter level, the OPD has organized planning boards staffed by local political and professional leaders who review all community and industrial schemes. By scrutinizing all energy projects, the planning boards increase the democratic features of the Navajo political process. Planning boards are free to draw on the resources of the OPD for information, planning, and advice. At least two local planning boards have become particularly effective in a short period of time: Kayenta, in the north-central reservation area, and Tohatchi, in the east-central area. There is immense potential in planning boards, and, as of the summer of 1977, many communities were responding enthusiastically to the concept.

Finally, the Navajo people are beginning to take the initiative in energy schemes. The chairman of the Navajo Tribal Council, Peter MacDonald, made the following comments before the Senate Economic Development Subcommittee in March 1976:

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[29] Tom Barry, "Aneth People Tired of Exploitation: Oil Wealth Has Not Brought Them Better Life," *Navajo Times*, 13 April 1978, pp. 2-3, 5.

[30] "Texaco Corruption Ends: Agreements Reached," *Navajo Times*, 20 April 1978, pp. A-6, 8-10.

[31] "New Office for Fiscal Efficiency, *Navajo Times*, 15 July 1976, pp. A-1, 10.

> The Navajo Nation will assess its position on energy developments only after the following four commitments are made by the federal government:
>
> 1. Energy development is for the benefit of the Navajo people and it conforms with Navajo goals, needs and priorities.
> 2. Sufficient water will be made available without hurting other uses, such as agriculture, livestock and other industries.
> 3. Products of energy development will be made available for use within the Navajo Reservation by Navajos.
> 4. We will be given opportunities to participate in and control energy developments.[32]

Chairman MacDonald's comments echo the prevailing attitudes of the Navajo people and reflect new trends in the Navajo approach to energy developments. The Navajos are less willing to endorse projects because they have learned from the miseries and inequities created by earlier projects. They are now better educated and informed, and the Tribal Council has become more protective of Navajo welfare. Statements like Chairman MacDonald's were almost entirely unfamiliar to the Navajo people in the early 1960s, when the Navajo Generating Station near Page, Arizona, was discussed. In the late 1970s, they are commonplace in the Council chambers and on the lips of candidates for the position of chairman in the coming 1978 election. They form the basis for discussion in the Navajo press, on radio, and among most of the Navajo people.

Despite this new consciousness, there are no well-formed and reasonable alternatives to the helter-skelter schemes that chiefly benefit companies and distant urban consumers. The Navajo Tribe has received crumbs, and local residents have acquired only a few jobs while paying all of the environmental and psychological costs. The chairman of the Navajo Tribal Council has publicly declared his support of Chapters, but this support is meaningless without candid meetings between tribal officials, companies, and federal representatives and without well-considered plans prepared by the Navajo Tribe for its own benefit. Local Navajo communities have been alienated from their own tribal government and the federal government and have been openly hostile toward utilities and mining corporations. There is no overall scheme that meaningfully involves local communities in decision making, economic gain, and community planning.

Nevertheless, the Navajo government is attempting to come to terms with some major problems. It has created a series of new agencies to establish Navajo priorities for economic development; instituted planning boards to allow local residents to review industrial and energy projects; and begun to renegotiate contracts and leases with energy corporations. Whether or not these initiatives will remedy the economic problems of the reservation and begin to fulfill the goal of self-sufficiency outlined in the *Navajo Ten-Year Plan* is one of the most important questions now before the Navajo people.[33]

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[32] Peter MacDonald, as quoted in L. Burnett, "MacDonald Wants Commitments Prior to Energy Development," *Navajo Times*, 18 March 1976, pp. A-1, 3.

[33] For analyses of Navajo economic problems and possible solutions for them, there are five major sources, only two of them published. Phil Reno, an economist at the Shiprock branch of Navajo Community College, has recently completed a book-length manuscript on Navajo economic problems and remedies. Lorraine Ruffing, and economist at Adelphi University in Garden City, New York, has prepared a paper dealing chiefly with mineral leasing on the Navajo reservation. David F. Aberle's "A Plan for Navajo Economic Development" is a superb account of Navajo economic underdevelopment. Aberle has recently completed an unpublished manuscript, *The Emergent Navajo Nation: Economic Development* (Vancouver: University of British Columbia, 1976). For a comprehensive and penetrating historical and structural analysis of Native Americans' economic and political status, I recommend Joseph G. Jorgensen's "A Century of Political Economic Effects on American Indian Society: 1880–1980," *Journal of Ethnic Studies*, 6, Fall (1978). For resource sales and use, see the publications of the Navajo Office of Program Development. At least two Native American organizations are dealing with energy issues at an informed and pan-tribal level: the Council of Energy Resource Tribes (CERT) and the Native American Natural Resources Development Federation (NRDI).

# Can Tribes Control Energy Development?

*Nancy J. Owens*

Indian tribes in the western United States own substantial energy resources. Oil and gas have been flowing out of Western resevations for decades, and exploration for new reserves is ongoing. Indian reserves of coal and uranium have been extracted at an increasing rate since the 1960s. Since the Arab oil embargo of 1973 and the subsequent national policy of energy independence, corporate and federal pressure to extract Western energy reserves has grown enormously. Indian tribes holding substantial energy resources have felt this pressure. Many tribal members liken the pressures on them today to give up their energy resources to the pressures that forced them to give up their land during the last century. Indeed, many Indians and non-Indians alike believe that if Indians do not voluntarily agree to develop their energy resources, the federal government will find some way to coerce tribes into giving them up.

At the same time, the international energy crisis has made tribes aware that their energy resources are worth considerably more than the Bureau of Indian Affairs (BIA) had led them to believe. There is a general awareness that Third World countries are getting better deals than tribes, often from the same companies that have negotiated with Indians. As a result, tribes are developing more sophisticated negotiating tactics, hiring their own legal specialists and professional negotiators instead of relying on the BIA to develop lease agreements. There is an increased awareness of alternative contractual arrangements, enforceable Indian-preference hiring clauses, and possibilities for tribal taxation of business activity. There has also been a rash of legal challenges by tribes of the lease agreements formulated for them by the BIA. This has set the stage for cancellation or renegotiation of lease agreements.

These new bargaining techniques being employed by tribes will undoubtedly improve the monetary return for their resources. However, monetary return does not necessarily imply greater tribal control. Whether or not tribes get more for their resources, the federal and corporate goal will be accomplished: getting tribes' resources out of Indian hands and into the national economy. To date, all development, control, and use of Indian energy resources has been in the hands of whites. Greater monetary return will not change this pattern. Energy development has resulted in a drain of nonrenewable resources from Indian into non-Indian ownership and a temporary employment and revenue boom for tribes.

Tribes are asking themselves, "What will we have to show for this at the end of fifty years? Will our resources be gone, and our reservations therefore more impoverished than before? If we sell our resources now, what will life be like for our children and grandchildren? On the other hand, the needs of our present populations are great; how can we resist the promise of revenues and jobs?" If the bind that tribes are in over energy development—the need to provide for the present population but also be certain that future generations will be provided for—cannot be solved, then energy development will become the most recent of the many failures of federal policy toward Indians.

### What Is Needed to Control Energy Development?

In order for tribes to meet long-term as well as short-term needs, they must maximize their control over the events that take place on their reservations. They must exercise economic as well as legal sovereignty.[1] The problems facing tribes in this regard are substantial. Issues include jurisdictional control, financial control, managerial control, and control by creating a diversified and stable reservation economy. Jurisdictional concerns include the ability of tribes to regulate the activities of people and businesses on their reservations through the development and enforcement of appropriate laws and codes. Financial control includes the ability to generate capital for investment and to maximize the rate of return on the sale of tribal resources. Managerial control involves the ability to conduct research, promote and manage business activity, and provide training programs so that tribal members can fill the full range of jobs available on the reservation. Finally, tribal control over the reservation depends on a tribe's ability to create a stable and diversified economic base that can satisfy the economic needs of its members.

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[1] Raymond B. Pratt, *Developing Nations or Internal Colonies? Tribal Sovereignty and the Problem of Resource Exploitation*, Paper presented at the annual meeting of the Western Political Science Association, Los Angeles, 16–18 March 1978, pp. 13, 23.

All these issues are central in addressing the question of whether or not tribes can control energy development. Energy development in the West is controlled by large multinational corporations. It requires large amounts of capital, sophisticated technology, research, expertise in energy marketing, and a transportation infrastructure. In addition, environmental regulations increasingly require legal and scientific expertise for the control of air and water quality and revegetation of strip-mined land.

Tribes do not have the ability to undertake large-scale development on their own. In the first place, the capital requirements are too great. The usual sorts of capital available to Indian tribes, such as Economic Development Administration grants or loans, are never substantial enough to fund such a venture. Second, tribes do not have the necessary expertise to manage large-scale development. Since there are so few Indians trained in energy development, tribes would have to hire non-Indians to fill managerial positions. A third obstacle is that the energy industry is very tightly controlled by existing multinational corporations, and it would be difficult for a small Indian tribe to attempt to corner a piece of the market for itself. Access to transportation is a fourth problem. Consequently, it is unlikely that a tribe could undertake large-scale energy development without the involvement of an established energy corporation. The issue of what is needed for a tribe to control energy development, then, hinges very much on a tribe's ability to control the negotiations with, and activities of, large corporations.

To date, tribes that have entered into agreements with energy corporations have generally exercised relatively little control over either contract negotiations or corporate activity in extracting Indian energy resources. This situation, however, is changing. Tribes are making strides in exerting greater control. In addition, there are numerous tribes holding energy resources that have not yet committed themselves or their resources to development.

This essay attempts to pull together some of the latest thinking on the issues of tribal control over energy development and presents some examples of tribal progress in this area. The author's experience is, of course, limited, and the issues covered here do not exhaust the full range of considerations that must be taken into account. For the last two years, I have been employed by the Northern Cheyenne Research Project, a program controlled and directed by the Northern Cheyenne Tribe. I am therefore most familiar with the Northern Cheyenne situation, but some news also reaches us from other tribes. In this paper I mention certain actions taken by the Navajo and Crow tribes. The Navajo Tribe and its reservation are very large, and the reader is cautioned that examples from this people may not be transferable to a small tribe. In many respects this is true for all tribes. Because their histories and cultural backgrounds are so different, it is often the case that what works for one tribe is not practical for another. Nevertheless, it is my belief, and the belief of many other observers, that the overarching national political economy, including the current pressure for energy development, affects all tribes in very similar ways.[2] For this reason, it is possible to discuss the issue of whether or not tribes can control energy development and expect that much of what is said will apply at least in a general way to more tribes than those about which the author has specific knowledge.

## Jurisdictional Control

### *Control over Non-Indian Persons*

Recent U.S. Supreme Court decisions have muddied the waters of Indian jurisdiction over non-Indians. The *Oliphant* decision[3] changed the prevailing interpretation of Indian sovereignty and declared that tribes did not have criminal jurisdiction over non-Indians, even non-Indians residing on reservation land. In the past, tribes had been assumed to have retained all the rights of a sovereign entity that were not expressly taken away from them by treaty or congressional action. In *Oliphant*, the Supreme Court reaffirmed but qualified this position. The qualified interpretation is that tribes retain all sovereign rights that have not been expressly revoked by treaty or congressional action and that are consistent with their status. The Court declared that criminal jurisdiction over non-Indians was not consistent with the status of tribes.

In practice, this decision has created major problems for reservation law enforcement. How are crimes committed by non-Indian residents or transients to be

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[2] Joseph G. Jorgensen, "Indians and the Metropolis," in *The American Indian in Urban Society*, ed. Jack O. Waddell and O. Michael Watson (Boston: Little, Brown, 1971); Jorgensen, "A Century of Political Economic Effects on American Indian Society: 1880–1980," *Journal of Ethnic Studies*, 6, Fall (1978); Nancy J. Owens, "Indian Reservations and Bordertowns: The Metropolis-Satellite Model Applied to the Northwestern Navajos and the Umatillas," Diss. University of Oregon 1976; Owens, "The Effects of Reservation Bordertowns and Energy Exploitation on American Indian Economic Development," in *Research in Economic Anthropology*, II, ed. George Dalton (Greenwich, Conn: JAI Press, in press); Pratt.

[3] Oliphant v. Suquamish Indian Tribe et al., 98 S. Ct. 1011 (1978).

handled? Who will arrest and who will prosecute? These problems are very important for energy development, which usually brings an influx of non-Indians to the reservation. If tribes are unable to control the activities of non-Indians, the social impacts of an increase in the non-Indian population will be substantial.

The concern over growth in the number of non-Indians on the reservation was foremost in the minds of both Crows and Northern Cheyennes when asked in recent household surveys for their opinions about coal development. The Northern Cheyenne and Crow tribes own substantial coal reserves—an estimated five billion tons each. The two tribes are approaching the issue of coal development in very different ways. However, when the people of each tribe were interviewed in household surveys, they expressed strong concern about the expected increase in the non-Indian population. These surveys were undertaken before *Oliphant;* the concerns would now be magnified. In replying to a question about the effects of an increase in the non-Cheyenne population on the reservation because of coal development, 89 percent of the Northern Cheyenne respondents thought that such an increase would be bad. With respect to a question concerning the present number of whites on the reservation, 78 percent said there were already enough whites. Of this 78 percent, 34 percent said there were too many already, and 43 percent said the present number is acceptable but there should be no more.[4]

In the Crow survey, respondents were asked what bad changes would be brought about by strip mining on the reservation. Of those who answered, the majority—55 percent—mentioned an increase in the non-Crow population. Environmental degradation was their second greatest concern.[5] Among the reasons for the concern over non-Indian population increases were fears that Indians would become a minority on their own reservation, that their culture would die out, and that they would lose control over their land and, ultimately, their lives.

The problems created by *Oliphant* may mean that it would be wise for tribes not to undertake energy development projects that involve increases in the number of non-Indians until some solutions to the jurisdictional problems are found.

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[4] Jean Nordstrom, "Northern Cheyenne Tribal Members' Evaluation of Economic Development: The Social, Cultural, Economic and Environmental Effects," in *The Northern Cheyenne Tribe and Energy Development in Southeastern Montana: Social, Cultural, and Economic Investigations*, Jean Nordstrom, James P. Boggs, Nancy J. Owens, and JoAnn Sooktis (Lame Deer, Mont.: Northern Cheyenne Research Project, 1977), pp. 167–170.

[5] Crow Impact Study Office, *A Social, Economic and Cultural Survey of the Crow Reservation: Implications for Energy Development* (Crow Agency, Mont.: Crow Tribe, 1977), pp. 154–155.

### *Control over Business Activities*

While *Oliphant* took away criminal jurisdiction, it did not include a ruling on civil jurisdiction. Thus tribes, as governing units, retain jurisdictional authority to regulate business activities within their borders, just as states do. They also have jurisdiction to enact zoning and other regulatory codes governing water use, taxaation, fish and wildlife, and environmental protection. The problem here is that few tribes have enacted their own regulatory codes.[6] In the absence of tribal codes, states have attempted to impose and enforce their own codes, including the chartering of corporations, collection of taxes on corporate property, production, and earnings, and regulation of fish and game. In the area of jurisdiction, "Use it or lose it" is the rule, and tribes will undoubtedly have to fight state governments in court in order to exercise their jurisdiction. In the meantime, if tribes do not enact codes to regulate business activity and develop their court systems to be able to enforce them, they are liable to lose this jurisdiction to the states. If this happens, they will lose an important aspect of their ability to control energy development.

### *Interior Department Control*

Tribes, particularly those organized under the Indian Reorganization Act, are further hampered in their ability to regulate business by clauses in their constitutions requiring approval of their laws and codes by the Secretary of the Interior. Since the Secretary is responsible to many constituents, including persons and agencies whose interests are in direct conflict with those of Indians, he often performs poorly in his role as trustee of Indian affairs. When tribes have approved taxation and regulatory codes, the Secretary has often delayed taking action on them for several years.

If tribes are to pass and enforce regulatory codes to control energy development and other business activity on their reservations, it might be necessary for them to find a way to bypass secretarial approval of tribal legislation. One possibility is for tribes to amend their constitutions and take out all the clauses requiring secretarial approval. However, in many cases constitutions require secretarial approval of amendments to the constitution, and the Secretary might be unwilling to relinquish his power.

In summary, if tribes are going to be able to control energy development, they will have to consolidate their jurisdictional authority, find ways of controlling the criminal activity of non-Indian persons, and pass and enforce regulatory laws and codes to control business activity within their borders.

## Financial Control

Energy development on Indian reservations has so far meant energy extraction. Tribes have not had the ability to generate sufficient capital, expertise, or access to transportation and markets to undertake development on their own. They have therefore sold their resources to non-Indians in return for revenues and, occasionally, employment. Resources have seldom been used to develop the Indian economy or provide fuel products or electricity to the Indian people. No "multiplier effect" has been created because employment income has been spent in off-reservation towns on goods and services produced by non-Indians, and royalty income has been needed to keep the basic operations of tribal government going. Seldom has enough surplus revenue been generated or used for reinvestment in tribal business enterprises. As a result, both the dollars received from the sale of energy resources and the resources themselves have been draining away from the reservation.

Awareness of the disadvantages of an "export economy" is growing, and tribes are taking steps to remedy some of the problems. The major focus has been on maximizing the revenue received from energy development. This emphasis has been prominent because BIA-designed lease agreements have favored non-Indian rather than Indian gain. To understand tribal attempts to generate revenue from energy development, it is necessary to discuss taxation, contracts, and employment.

### *Taxation*

The power to tax is fundamental to any sovereign government. Taxation allows a government to finance its own activities by requiring businesses that are producing wealth to share in the costs of government services that support the needs of both business and the general population. Taxation also gives a government the ability to regulate the economy within its jurisdiction by providing incentives for certain kinds of business activity. For example, a recently enacted Navajo business-activities tax allows businesses that are covered by the tax to deduct from their total liability the costs they incur for payroll to Navajo employees and for any Navajo goods and services they purchase.[7] Thus, through the tax structure the Navajos encourage employment of tribal members and the development of a multiplier effect for the reservation economy.

In November 1977, the U.S. Solicitor General announced that tribal governments, and not state governments, have the right to tax certain minerals on Indian reservations. A study is now underway by the

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[6] American Indian Policy Review Commission, *Reservation Resource Development and Protection*, Final Report of Task Force Seven (Washington, D.C.: U.S. Government Printing Office, 1976), p. 64.

[7] Navajo Tax Commission, *Proposed Resolution of the Navajo Tribal Council Enacting the Navajo Business Activities Tax* (Window Rock, Ariz.: Navajo Nation, 1978).

Interior Department to determine which reservations, which mineral leases, and which kinds of taxes are covered by the 1938 Indian Mineral Leasing Act. The ruling resulting from this study could substantially increase the revenues available to tribes from coal, oil, gas, and uranium development, and decrease the revenue available to states. The State of Montana has already announced it will challenge the Solicitor's rulings and attempt to continue to collect production taxes on Indian oil and severance taxes on Indian coal.[8] Undoubtedly other states will also challenge the ruling. The State of Montana's case may be hurt by the fact that none of the revenue from the coal severance tax has been returned to the tribes, even though a substantial portion of the state's coal tax fund comes from taxes on Crow Indian coal. The state has approved use of the coal tax funds by non-Indian communities to mitigate the impacts of energy development in their areas, but it has not approved any Indian requests for assistance.

The Crow Tribe has developed a 25 percent severance tax on the mine-mouth selling price of its coal. This tax has been approved by the Secretary of the Interior for application to coal mined on the reservation. Currently no coal is being mined on the reservation itself, but Crow coal is being mined on the Crow ceded area, a piece of land to which the Crows ceded surface rights but maintained mineral rights. The Secretary declined to approve the Crow tax for coal being mined on the ceded area, even though the coal belongs to the Crow. The Secretary's decision was undoubtedly made in part because the State of Montana has for several years been collecting a 30 percent severance tax on this coal. If the Crow tax had been approved for the ceded area, a protracted court battle would undoubtedly have arisen over whether the state, the tribe, or both had jurisdiction to tax. At the present time, the state receives more money in severance taxes from Crow coal than the Crow Tribe receives in royalties.

Ambler reports that in 1976 the Navajo Tribe collected $12.8 million in coal royalties, while taxes paid to the states totaled $18.5 million.[9] Jorgensen reports that the State of Arizona now collects $10.5 million annually in taxes from the Navajo Generating Station, a coal-fired electrical generating plant on Navajo land near Page, Arizona.[10] Construction of the generating station was completed in 1976. The plant burns coal from Black Mesa that is hauled some seventy-five miles by electric railroad from the mine to the generating plant. The Navajo Tribe receives $2.5 million annually in royalties from coal, land rents, and right-of-way income. It receives nothing for the water used for cooling at the generating plant. Thus, the Navajo Tribe receives less than one-fourth the revenue Arizona receives, even though the development is totally on Navajo land, uses Navajo minerals and water, and pollutes the air over Navajo territory.

The Navajo Tribe has recently enacted three tax codes to alleviate some of the inequities in its lease agreements. The codes not only create a taxation structure but also empower the Navajo tribal court system to enforce the codes. They repeal any previous resolutions that are inconsistent with the provisions of the codes, including any purported waiver of the Navajo Tribe's right to tax. This section of the code is particularly important because past BIA lease agreements for the Navajos included clauses stipulating that no taxes would be imposed by the Navajo Nation.

The three Navajo tax codes include a possessory-interest tax, a business-activities tax, and a sulfur-emissions tax.[11] The possessory-interest tax is a tax on the value of leased property. The business-activity tax is a tax on the gross receipts of a business purchasing Navajo goods, including coal, oil, and uranium, and Navajo services, including transmission of coal and electricity. The sulfur-emissions tax is a penalty to be assessed on facilities emitting more than one million pounds of sulfur annually.

The business-activities tax has clauses allowing deductions for Navajo goods and services purchased and for payroll costs for Navajo employees. This tax, however, expressly excludes businesses engaged primarily in the retail sale of non-Navajo goods and services. Thus, retail grocery stores, trading posts, and the like are not included in the tax structure. Also excluded are tribal enterprises and traditional farming and livestock activities.

Through the mechanism of taxation, then, the Navajo Tribe is attempting both to recoup revenues lost through unfavorable lease agreements made in the past and to encourage a reservation multiplier effect by providing economic incentives for businesses to hire Navajo employees and purchase Navajo goods and services. To date, though, the Navajo Tribe has not collected any taxes under the new codes. The possessory-interest tax has been challenged in court and has passed its first important hurdle at the district court level. The code establishing a sulfur-emissions penalty was sent to the Secretary of the Interior for his approval, but the Secretary has not yet acted.

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[8] Marjane Ambler, "Indians Wrestling for Control over Their Minerals," *High Country News*, 30 December 1977, p.1.

[9] Ambler, p.6.

[10] Jorgensen, "A Century of Political Economic Effects."

[11] Navajo Tax Commission, *Resolution of the Navajo Tribal Council As Amended 9/15/77 Requiring a Permit for the Discharge of Sulfur or Its Compounds into the Atmosphere from within the Navajo Nation* (Window Rock, Ariz.: Navajo Nation, 1977); Navajo Tax Commission, *Prtposed Resolution of the Navajo Tribal Council Enacting the Navajo Business Activities Tax;* Navajo Tax Commission, *Proposed Resolution of the Navajo Tribal Council Enacting the Navajo Possessory Interest Tax* (Window Rock, Ariz.: Navajo Nation, 1978).

Other tribes are enacting similar taxes. According to a report to the U.S. Department of Energy prepared by Ernst and Ernst for the Council of Energy Resource Tribes (CERT), the Jicarilla Apache Tribe has also passed a tax on corporate activity on its reservation and is now in court defending its right to tax.[12]

### *Contracts*

In the past, the most common form of contract between tribes and energy companies was the lease agreement written by the BIA following guidelines used in leasing federal lands. Typically, the lessee was first given an exploration permit with the right to proceed to a lease agreement if the lessee chose to do so. In the case of coal leases, the lease price was usually established at a fixed rate at the time the exploration permit was granted. No requirement was made that the lessee make its exploration data available to the tribe prior to signing the lease agreement so that the actual value of the lease might be considered in determining the value at which the minerals would be sold. As a result, tribes entered into lease agreements without the slightest knowledge of the quantity and quality of their resources or of their current and potential market value. Furthermore, the lessee had the option to go from exploration permit to lease without competitive bidding. In some cases, as on the Navajo reservation, a clause was added to the lease signing away the tribe's right to tax.

In the cases of the Northern Cheyenne and Crow coal leases, legal research initiated by the Northern Cheyenne Tribe found that there were thirty-six clear violations of law in the execution of the leases.[13] One significant violation was that the leases made for the reservations exceeded in size by many times the acreage limitation established by federal law. The use of this violation by the Crow Tribe as grounds for the renegotiation of its coal lease agreements was upheld recently in the Ninth Circuit Court. Another significant violation of law was the failure of the BIA to make a technical assessment of the environmental, social, and economic impacts of the activities allowed in the lease agreements, which included massive strip mining and the conversion of coal into electricity.

As a result of the many violations of law uncovered in its leases, which covered 56 percent of the Northern Cheyenne reservation, the Northern Cheyenne Tribe petitioned the Secretary of the Interior in 1974 to cancel its leases and declare them null and void. The Secretary took a compromise position and suspended the leases pending tribal and industry agreement to renegotiate. The tribe has insisted that the old leases be torn up and the slate wiped clean before any negotiations resume. The energy companies have not responded favorably to this stance. In the meantime, the Department of the Interior has been politically embarrassed by the wide publicity given the inadequacy of Indian lease agreements. This may make it possible for the Northern Cheyenne Tribe to obtain administrative invalidation of the leases rather than be required to take the issue to court.

The inadequacy of past lease agreements, combined with growing awareness that Third World countries have been getting much better deals than Indian tribes in their negotiations with corporations — even with some of the same corporations that are seeking to exploit Indian resources — has led Indians to consider other types of contractual arrangements. Alternatives to royalties, or royalties plus taxes, include joint ventures and production-sharing or service contracts.

In a joint venture, ownership of the operation is shared by the tribe and the corporation. The percentage each owns is determined by many factors, including bargaining strength, value of the resource, cost of extraction, and relative capital contributions. Bargaining strength is perhaps the most important factor in determining the division of ownership. It is important for the tribe to know the quantity, quality, and present and future market value of its resources. It must be able to calculate the financial return of the venture under different market conditions. The tribe must be knowledgeable about tax and other advantages the operation will have if it is a minority-owned business. It must know what kinds of contracts this and similar corporations have made in other parts of the world to know what is fair and reasonable.

In production-sharing and service contracts, the tribe retains full ownership of the operation. Trosper provides an example of a production-sharing arrangement in Indonesia. Phillips Petroleum produces oil for an Indonesian firm. Phillips can recover all its costs related to production as long as they do not exceed 40 percent of the value of the oil produced in any calendar year and 35 percent of the value of the remaining oil produced. Thus, repayment is tied to the value of the oil rather than to revenue or sales. Furthermore, Indonesia retains the right to market its share of the oil produced. This prevents Phillips from selling it at a cheap price to a subsidiary or affiliate.[14]

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[12] Ernst and Ernst, *Managing Energy Development*, Vol. II of *Comprehensive Analysis of Issues Regarding Energy Resource Development on Indian Reservations* (Washington, D.C.: U.S. Department of Energy, Office of Indian Energy Technical Assistance, 1977), p. V–57.

[13] *Petition of the Northern Cheyenne Tribe to Rogers C.B. Morton, Secretary of the Interior, Concerning Coal Leases and Permits on Their Reservation* (Seattle: Ziontz, Pirtle, Morisset, and Ernstoff, 1974).

[14] Ronald L. Trosper, "American Indian Mineral Agreements: Literature Search and Reform Proposals," in *Reservation Resource Development and Protection*, American Indian Policy Review Commission, p. 142.

The Navajo Tribe, looking for alternatives to leasing, entered into a joint agreement with Exxon to extract Navajo uranium. This agreement contained three options: two involved joint ventures, and the third was a royalty agreement. In this case the Navajo Tribe appears to have signed a contract without adequate bargaining knowledge, for the two joint-venture arrangements proposed hinged on the relative contribution of capital to the venture and gave no value to Navajo uranium reserves. Both joint-venture options made the Navajo Tribe the junior partner. In one, if the Navajo Tribe put up 49 percent of the working capital and all of the uranium, it would receive 49 percent of future profits. In the other, Exxon would put up the Navajos' 49 percent of working capital but would be paid back double its contribution. Jorgensen points out that it is unlikely that Exxon would ever make such a deal with another company if Exxon were the owner of such valuable resources. He further points out that as the senior partner, Exxon will keep the books and conduct the business, and it will be difficult for the Navajo Tribe to audit "the amount of uranium produced, the costs incurred, the fairness of the selling price (on the off chance, for example, that Exxon sold to a subsidiary at a low price), or to control inflated salaries, bonuses, dividends, or other surplus capital paid to Exxon executives and owners that is hidden as costs."[15]

The severe problems with the Navajo-Exxon contract show the extent to which tribes need to develop and have on hand their own expertise in contractual arrangements and bargaining. They are dealing with some of the most powerful and influential multinational corporations, and they must be prepared to meet them with top-flight negotiators and legal advisors experienced in mineral contracts made throughout the world. For this purpose the Crow Tribe has retained attorney Charles Lipton, an experienced negotiator for Third World countries, to advise the tribe in its exploration of various contractual arrangements for extracting its coal resources.[16] The Crow Tribe has established an official negotiating committee to represent the tribe. This increases tribal control over the negotiating process and helps to deter corporations interested in Crow coal from employing tactics to divide the tribe, from going over the tribe's head to the BIA, and from offering gifts or per capita payments to tribal members so that the membership will pressure tribal leaders into making a fast deal. With these and other tactics, corporations have often been successful in undercutting a tribe's unity and bargaining strength and have thereby managed to get better deals for themselves.[17]

### *Employment*

Employment of tribal members is a source of revenue that must be considered in planning economic development. In 1974, earnings paid to Navajo workers employed in energy developments totaled $15.3 million, nearly the same amount as the tribe received in royalty payments that year, which totaled $16.3 million.[18] For this reason, enforceable Indian-preference hiring clauses are an important issue in contract negotiations. Many Indians lack skilled-labor, technical, or managerial training. Therefore, establishment of on-the-job training programs and requirements that corporations fill skilled, technical, and managerial positions with tribal members after a specified length of time are important. The burden of insuring that tribal members receive adequate training to fill such positions should rest with the corporation, not with the tribe. Otherwise the corporations will find many excuses to keep managerial control in the hands of non-Indians. The Navajo Tribe has had some success with Indian-preference hiring, and this effort is an ongoing task of the Navajo Labor Relations Board.[19] The tribe has also hired an experienced labor negotiator to help accomplish its goal of training and employing Navajos to hold all available jobs in the Navajo Nation.

## Managerial Control

### *Needed Management Functions*

No matter what form of contractual arrangement a tribe chooses, it must fulfill important management functions to control development projects. Needed management functions include research, planning, development and enforcement of codes and regulations, business management, and manpower development.[20] The majority of tribal governments lack most

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[15] Jorgensen, "A Century of Political Economic Effects."

[16] Charles Lipton, "Real Choices in Indian Resource Development (Alternatives to Leasing)," Speech before a conference of tribal leaders at Billings, Mont., 1975. (Available from Americans for Indian Opportunity, Suite 403, 600 Second St., N.W., Albuquerque, NM 57102.)

[17] Trosper, p. 144. For more information on alternative contractual arrangements and negotiating tactics, see Enrst and Ernst; Tom Luebben, "Mining Agreements with Indian Tribes," *American Indian Journal*, 2, No. 5 (1976), 2–9; reports from Americans for Indian Opportunity; and Trosper, which contains a bibliography.

[18] Lynn A. Robbins, "The Navajo Nation and Industrial Developments: A Description and Some Recommendations," *Proceedings of the First Annual Navajo Energy Conference, Tsaile, Ariz., 2 May 1977* (Los Alamos, N.M.: U.S. Department of Energy, Los Alamos Scientific Laboratory, 1977).

[19] Lynn A. Robbins, "Navajo Participation in Labor Unions," *Lake Powell Research Project Bulletin*, No. 15 (Los Angeles: University of California, Los Angeles, Institute of Geophysics and Planetary Physics, 1975).

[20] Ernst and Ernst; American Indian Policy Review Commission, *Tribal Government*, Final Report of Task Force Three (Washington, D.C.: U.S. Government Printing Office, 1976); American Indian Policy Review Commission, *Reservation Resource Development and Protection;* Owens, "The Effects of Reservation Bordertowns."

of these functions. Research is needed to assess the quality, quantity, and location of the tribe's resources. This information is essential for the tribe to develop a knowledgeable bargaining position. Research can also ascertain alternative development plans and their social, economic, and environmental impacts. Since most tribes try to involve the tribal membership as a whole in important decisions, it is also important that research have a public-information component.

Large-scale resource development is a complex and technologically sophisticated undertaking. Land, air, water, animals, and people are all affected. In the case of strip mining, the range of potential environmental impacts is unknown. Whether strip-mined lands in the arid and semiarid Western states can successfully be reclaimed is also not known. These and other unknowns constitute risks that a tribe needs to identify in deciding whether or not to consider a development project and in assessing its costs if it does decide to go ahead. A research staff with scientific expertise can provide the tribe with the most up-to-date information available. It can also keep the tribe informed of state and national laws, policies, and regulations that might affect tribal resource development or tribal control over its resources.

Tribal planning is necessary to carry out land-use surveys, mapping, and zoning, and to conduct feasibility analyses, weigh development alternatives, and coordinate tribal development efforts. Business expertise is needed to manage tribal funds and investment and to develop tribal businesses. Tribes need legal and accounting advice in preparing business charters and contracts. In the case of energy developments, they need individuals with particular expertise in writing and auditing mineral contracts. They need management personnel who have knowledge of industries relevant to tribal economic development and who have access to technical advisors who can determine development and marketing costs. In dealing with large energy corporations operating on tribal lands, tribes also need personnel experienced in energy who can monitor the progress of development; ensure that Indian-preference hiring policies are followed; guarantee that payments to the tribe are made on time, or that if delayed, appropriate interest rates are charged; and otherwise make certain that contract provisions are followed.

Finally, manpower development is necessary to train tribal members to fill these management positions. In the case of energy development, training should be the responsibility of the corporation, and the tribe should determine details of the program's structure. Scientific training needs to be improved at all levels of the educational process so that Indian students will be better prepared to undertake scientific careers for research and planning. Business manage-

**ment and corporate and environmental law are also important areas for specialized training.**

### *Examples of Control through Management*

The Northern Cheyenne reservation lies in the heart of the Fort Union coal formation, one of the nation's largest deposits of low-sulfur coal. The tribe owns substantial coal reserves, and the reservation is surrounded by coal deposits for which large-scale development projects are either planned or already underway. The Northern Cheyenne Tribe has a well-developed research organization that was instrumental in enabling the Tribe to take advantage of national laws permitting them to exert some control over coal developments immediately adjacent to the reservation. In 1976, the Northern Cheyenne Tribal Council voted unanimously to redesignate the Northern Cheyenne reservation as a Class I (clean) air-quality area under regulations established by the U.S. Environmental Protection Agency (EPA).[21] The EPA granted the Northern Cheyenne Class I status in 1977. The Northern Cheyenne Research Project conducted the social, economic, and environmental impact assessment for the redesignation to Class I and continues to monitor legal and regulatory developments related to protecting the Class I designation. The Research Project also has an air-monitoring program to establish baseline air-quality conditions and determine any changes in air quality.

This status affects facilities that emit large quantities of sulfur dioxide and particulate matter, which could pollute the reservation's extremely clean air. It means that facilities such as coal-fired electrical generating plants located in the vicinity will be required either to have adequate pollution-control technology to reduce pollution at the source, or to be built far enough away from the reservation so that pollutants emitted will not reach the Class I area. Not surprisingly, coal and power companies planning developments near the Northern Cheyenne reservation have brought suit against the EPA in hopes of overturning the tribe's Class I status. The case is in the Ninth Circuit Court but has not been heard as of this writing.

Because violations of the Northern Cheyenne Class I status were expected, the EPA recently denied a permit to Montana Power Company for construction of Colstrip Units 3 and 4, two 700-megawatt generating stations the company proposed to build fifteen miles north of the reservation. They would join Colstrip Units 1 and 2, which are already operating at 350 megawatts each. Thus, if the new facilities were built, the plant would be about the size of the infamous Four Corners plant in Navajo country. EPA technical experts determined that Colstrip Units 3 and 4 as currently designed would cause pollution levels on the Northern Cheyenne reservation in excess of those allowed for a Class I area.

The success of the Northern Cheyenne Tribe in using Class I status to control the adverse environmental and social effects of development projects on or near their reservation has prompted other tribes to begin a similar redesignation process. The tribal councils of the Flathead and Fort Peck reservations in Montana and the Pine Ridge reservation in South Dakota have all passed resolutions requesting EPA Class I air-quality designations.

The enactment of tax codes by the Navajo Nation reflects the increasing management sophistication of the tribe. The Navajo Tax Commission is responsible for writing and overseeing tax regulations, while the tribal comptroller's office is responsible for collecting and investing the tax receipts. The Navajo Environmental Protection Commission will issue detailed regulations related to the code establishing a sulfur-emissions penalty and will monitor facilities emitting sulfur compounds. The Navajo tribal court system is vested with jurisdiction over all persons subject to taxation and is empowered to hear and determine any challenges to the validity of the codes or their application to any persons covered by them.

These examples show how tribal management structures can be a potentially powerful force in exercising tribal sovereignty and exerting control over corporate activity. Exercise of sovereignty and control is expensive, however. Both the Northern Cheyennes and Navajos have been challenged in court, and the tribes must bear the high costs of litigation in order to protect their rights.

## Control through Diversification of the Tribal Economy

While some tribes have made strides in increasing their control over some aspects of energy development, much more progress is needed if the goal of full tribal control is to be realized. If tribes cannot exert substantially greater control than they have to date, involvement in large-scale energy development may do more harm than good to the economic sovereignty of tribes. In this section, I summarize the dangers that large-scale development poses to tribes and suggest some alternatives for creating a stable and diversified reservation economy.

### *Dangers of Large-Scale Development*

Because large-scale energy development requires so much capital, technological expertise, and access to transportation and markets, and because the energy field is so tightly controlled by a few multinational

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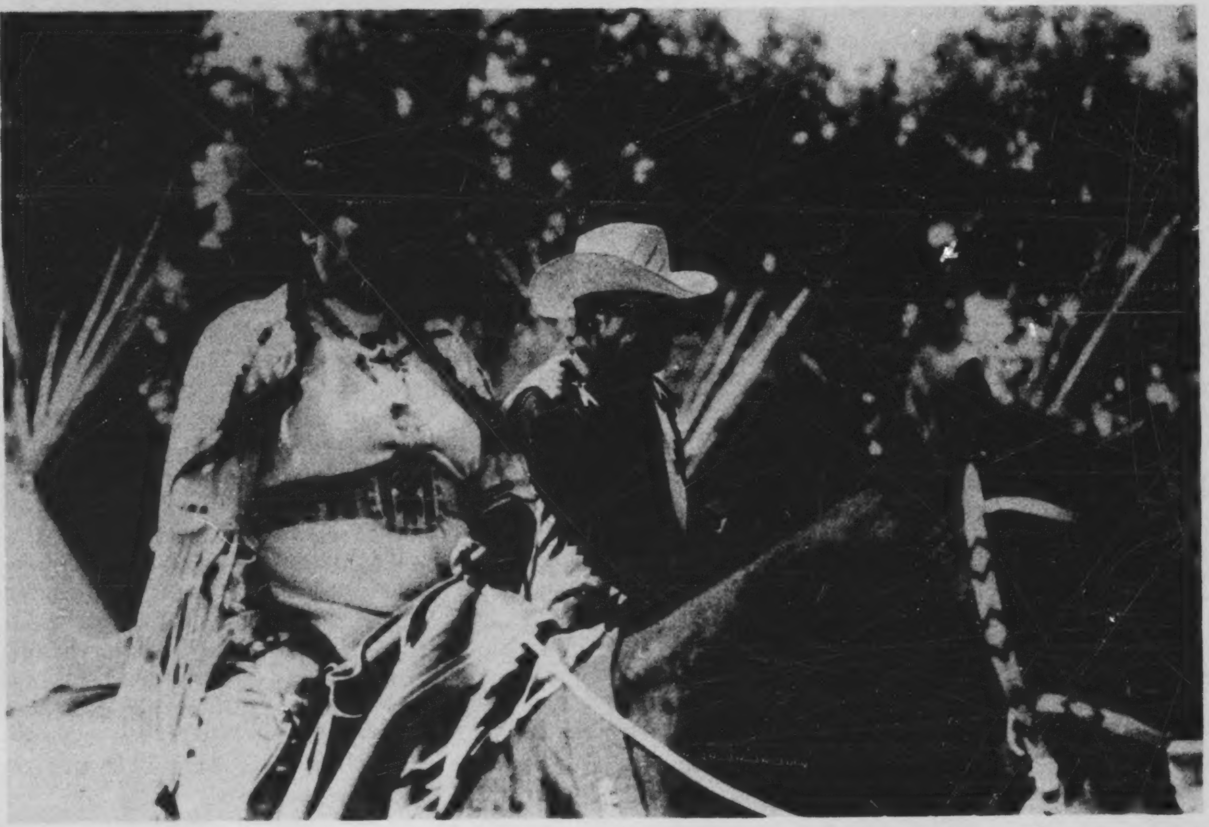
[21] Northern Cheyenne Research Project, *The Northern Cheyenne Air Quality Redesignation Report and Request*, 3 vols. (Lame Deer, Mont.: Northern Cheyenne Tribe, 1977).



corporations,[22] it is unlikely that tribes could undertake such large-scale development on their own. What does the involvement of multinational energy companies mean for a tribe? First, a tribe must assess the effects on its well-being of relying increasingly on an export economy, allowing its resources to pass out of Indian ownership and into the national economy for use by large metropolitan centers in exchange for an influx of dollars. Second, a tribe must consider the long-term political and economic effects of having a very powerful multinational corporation at its doorstep, determined to protect and maximize the return on its investment. These corporations benefit from weakened tribal sovereignty and indeed continuously challenge tribal rights in court. They also lobby for anti-Indian measures in state and national legislatures. Third, a tribe must assess the implications of a decreased resource base, more outsiders, and increased economic specialization that such developments bring to the reservation.

Research, planning, business management, code development and enforcement, and manpower development will undoubtedly enable tribes to make contracts that increase tribal control over development activities. However, it must be recognized that the advice given tribes to develop management structures is essentially advice to acculturate. It puts the burden of change on the Indian people so that they will be better able to compete with state agencies and private corporations. It also assumes that if the Indian people change in this way, then they will gain equal participation in the economic system. Thus, the advice to develop management structures has all the flaws of the old assimilation arguments. It asks tribes to develop sophisticated non-Indian institutional structures so that they can adapt more effectively to the non-Indian political economy; in this way, their resources may be more efficiently extracted. That tribes are given a better deal in the process is one of the conditions that today's political realities have placed on the efficient extraction of their resources.

History has shown that when Indians have given up control of their resources to outsiders, they have lost economically in the long run.[23] Further, if in order to control energy development tribes are required to develop management structures that mirror non-Indian institutional models, they may be unable to carry on their traditional values and ways of life. The sophisticated information needed to make decisions to control development will be held by a handful of advisors to tribal decision makers. Until Indians are trained in management, many of these advisors will necessarily be non-Indians. Because of the technical complexity of the issues, it will be difficult adequately to inform the tribe as a whole of their ramifications. Inevitably, tribal government will tend to become more hierarchically organized and less egalitarian, with major decisions involving relatively few persons. These structural changes also mean that power will most likely become concentrated in the hands of a few individuals.

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[22] Raymond B. Pratt and Dwayne Ward, *Corporations, the State, and Energy Development in the Northern Rockies*, Paper presented at the annual meeting of the American Political Science Association, New York, 30 August–3 September 1978.

[23] Owens, "The Effects of Reservation Bordertowns."

There are many conflicts between the institutions and values of Indians and non-Indians. If tribes are required to develop non-Indian institutions and values in order to control economic development, cultural conflict and tension within the tribe will increase. The better-educated and more acculturated people will be likely to assume greater power and importance, while those who follow the teachings of the elders will likely lose influence. For these reasons tribes need to look carefully at the advice given them to develop modern management structures. If such structures are imposed to further non-Indian goals, they may be detrimental to Indian interests in the long run. On the other hand, if they are created by tribes with tribal needs and cultural values in mind, they may be able to increase tribal control and flexibility in responding to economic-development alternatives.

### *Tribal Development of Resources*

A number of tribes holding energy resources are looking at the alternative of developing Indian resources for Indians rather than exclusively for export to the off-reservation market. The focus is on developing a more self-sufficient and diversified economic base. This goal is stated in nearly all reservation economic-development plans. Usually the plans call for development of a commercial infrastructure to keep more dollars circulating on the reservation and thereby create a multiplier effect. Such multipliers are currently almost negligible on reservations because most purchases are made in off-reservation towns and because nearly all the businesses that do exist on reservations are owned by non-Indians, who generally hire more whites than Indians. Another emphasis is on the need to develop vertical integration of tribal economies: raw materials such as timber and agricultural products are turned into goods Indians need and use themselves, such as building materials for homes and foodstuffs. Tribes might also produce such goods for export. Conventional economists argue that such small, decentralized businesses are not likely to be profitable. Small businesses have seldom been successful on Indian reservations, in part because the concept of profitability is still held in lower esteem on reservations than the concept of service to others. Small businesses have also failed because capital and credit have been either totally unavailable or in short supply. As a result, there are no easy ways to solidify the economic base that small-scale enterprises serving the internal reservation market need to remain viable.

Bruce Nordstrom, Jean Nordstrom, and James P. Boggs present a broad interpretation of a diversified and self-sufficient tribal economy.[24] For example, a tribe with timber, coal, and agricultural resources could develop its timber to provide building materials for housing and other construction needed by the community; produce coal for local consumption and energy needs; and use its agricultural resources to supply food for tribal members. In all cases, the emphasis would be on providing for local needs rather than producing for export, although some export would be important to provide cash income.

On many reservations over half the people who want jobs cannot find them. Jean Nordstrom discusses some guidelines that might ensure that economic-development projects and associated employment would be compatible with tribal goals and values.[25] First, development must be of a scale that can be largely controlled by the tribe. If the capital and technological requirements are beyond the means of the tribe, many outsiders will inevitably be involved. Development projects should be labor- rather than capital-intensive. It is preferable to create more jobs that pay moderate wages than a few that pay high wages. Jobs that offer the opportunity to serve the tribe or serve other people are also preferable. Jobs should be created in all the reservation communities, and job schedules should be consistent with Indian lifestyles and kinship obligations. Thus,economic development should result in community development, and it should benefit all rather than a few. Development should use skills of tribal members that are not now being used and also develop new skills so that the tribe will be able to become increasingly self-sufficient. Development should include tribal retail stores, repair shops, cafes, and recreational facilities, which will help keep money on the reservation and provide needed local goods and services.

Development following these guidelines would be oriented to the "inner economy" of the reservation. Jean Nordstrom points out that tribal businesses organized along these lines might not be competitive with non-Indian businesses, which are "likely to be more ruthless, less humane, and therefore more economically efficient than tribal businesses." Non-Indian businesses, in contrast to Indian businesses, also traditionally "cut costs and increase their efficiency by damaging the environment and pushing environmental and health costs of their production off onto the general public." Indians would also want to create work routines that meet the needs of people rather than getting the most work out of an employee for the least pay. Because Indians would be less inclined to make profits at the expense of land, air, water, and people, their businesses are less likely than non-Indian ones to turn a profit.[26]

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[24] Bruce Nordstrom, *Two Ways of Looking at Economic Development: Modernization vs. Colonial Perspectives*, MS (Berkeley: University of California, Department of Sociology, 1977); Jean Nordstrom; James P. Boggs, personal communication, August 1977.

[25] Jean Nordstrom, pp. 177–190.

Boggs argues that profitability problems may be solved if the tribe develops a diversified economy producing lumber, food, fuel, and retail and service businesses, and if tribal members actively support tribal economic policy by purchasing tribally produced goods. He points out that in the past tribal members have been encouraged by BIA assimilation policies to relate as individuals—or as individual businessmen—to the dominant society and economy. When they relate individually to the larger economy—as consumers, wage earners, or businessmen—they are in a relatively poor competitive position. If instead tribal members were encouraged to relate economically to the *tribe*, then the tribe as a whole could relate to the larger economy. Because the tribe has considerably more strength and bargaining power as a unit, it would be in a much better competitive position than individuals. Such broad-based support of the tribal economy would require more tribal organization and internal discipline than are common today. Individuals might have to forego the variety of goods and entertainment available off the reservation and be willing to buy within the tribe.[27]

Some might regard these views as utopian and the goals of tribal economic independence and self-sufficiency as unrealistic, given the nature of the larger economy. Nevertheless, Bruce Nordstrom argues that tribes stand to lose more, in the long run, as they become involved in our national economic system. Corporate development generally drains rural areas of capital and resources and leaves them relatively impoverished. Nordstrom points out that large-scale industrial technology is "inherently inconsistent with local control over one's economy and its development." For these reasons, he supports tribal endeavors to become as self-sufficient and independent of the national political economy as possible and join with other colonized groups to change the nature of the economy that dominates all colonized peoples.[28]

A self-sufficient economy may be able to provide all the necessities of life—housing, food, and fuel—from local resources at low cost. If so, income from jobs would go further in purchasing additional consumer goods. Whether or not a self-sufficient economy could provide enough jobs, income, or consumer goods for tribal members may depend on a tribe's willingness to relinquish or deemphasize a consumer orientation in order to hold to tribal values and social and religious traditions. Many tribal members may oppose such a decision. On the other hand, such a policy would give a greater voice in planning to more traditional Indians. Today, many of the more traditional Indians, especially the elders, are poor. Because they have no consumer power, they would not stand to lose anything by a policy of self-sufficiency. However, younger and more educated Indians, and those accustomed to holding jobs and earning steady incomes, might suffer an income decline under a policy of self-sufficiency. This group is more likely to oppose such a policy. Still, self-sufficient economic development would be more compatible with tribal goals and would require less personal and social change than the modernized managerial policy. It could be done internally, and in the long run it could result in greater tribal control over its resources than would an export-oriented economy.

Tribes may also want to develop more self-sufficient and diversified economies *along with* modern management structures. The extent to which economic self-sufficiency is desirable and feasible is affected by the surrounding economy. For example, existing or proposed energy projects border the Northern Cheyenne reservation on all four sides. Although the reservation was relatively isolated in the past, it is becoming less so. Development projects near the reservation may harm the tribe's air and water quality, and growth of the non-Indian pupulation may cause jurisdictional problems.

Thus, whether or not the tribe decides to develop its own energy resources, it will face problems of control presented by off-reservation development. Even if the tribe diversifies its economy along the lines suggested above, it cannot afford to relax its efforts to control the impacts of outside development. These efforts necessitate the development of a modernized managerial structure to deal with corporate, state, and national institutions. Douglas Richardson of the Northern Cheyenne Research Project has pointed out that tribes may be forced to develop modern management structures—whether or not they want the social and political changes such structures might bring—if their sovereignty is threatened by corporate and state activities related to rapid regional energy development.[29] Whatever decisions individual tribes make about the desirability of economic self-sufficiency, management structures, or the development of their energy resources, some sort of diversification of the tribal economy is an essential aspect of economic sovereignty.

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[26] Jean Nordstrom, pp. 186–187.

[27] Boggs, personal communication, August 1977.

[28] Bruce Nordstrom, pp. 26, 32.

[29] Douglas Richardson, personal communication, August 1978.

## Can Tribes Control Energy Development?

The answer is an unqualified "Maybe."

Tribes have made some important gains in their efforts to control energy development. Efforts to exercise greater control by increasing the tribal share of revenues have included tribal taxation of business activity; improved negotiating tactics to arrive at more lucrative contracts or agreements that retain tribal ownership of resources or production; and attempts to enforce Indian-preference hiring and on-the-job training. Tribes have taken over some management functions necessary to provide information, monitor contracts, reinvest revenues, and ensure environmental protection. Continued progress in tribal efforts to control energy development can probably be expected as long as the courts continue to uphold treaty rights and Congress does not pass legislation detrimental to Indian sovereignty. Through organizations like the Council of Energy Resource Tribes, Indian tribes can learn from each other as they tackle particular problems and evolve solutions to the exercise of greater sovereignty.

The majority of tribes, however, do not now have the full range of expertise needed to control development. Most do not even know the extent or value of their resources, and many tribes entering into contracts with corporations have not had the staff to monitor the companies' compliance with the agreements. Important jurisdictional issues are still unresolved, and efforts at tribal control are often hampered by the administrative structure of the BIA and by the Secretary of the Interior's powers of review. In spite of increased sophistication in negotiation, to my knowledge no tribe has yet arranged an innovative contract that would provide sufficient revenues to reverse the current flow of wealth away from the reservation or give tribes ownership or control of production.

Large-scale energy development is controlled by multinational corporations that are powerful both politically and economically. Pratt argues that tribes cannot expect help from state or national governments in their dealings with such corporations because governments are dependent for their revenues on the profitable activities of these very corporations. He suggests that tribes may have to appeal to domestic and international public opinion in order to obtain pressure for changes that will bring them economic justice.[30]

Tribes are also hampered in their bargaining position by the fact that minerals extracted from federal lands are still being sold at low prices. Tribes located in areas where cheap federal minerals are readily available will not be able to demand a high price for their resources.

Another problem is that in order to control development, tribes will probably have to create modern management structures that are competitive with those of corporations and the state. To exert sovereignty and control over development, tribes will have to make substantial modifications in their political organization and traditional values of leadership and group decision making. To the extent that the tribal political process is tied to social and religious structures, changes in political organization will affect other areas of Indian life.

For these reasons, it is possible that large-scale energy development will have the same result that agricultural, timber, recreational, and other developments have had on Indian reservations over the past century. Indians will get some cash return for their resources and some jobs, but the non-Indian population will be the ultimate owner, controller, producer, and consumer of Indian resources and will derive more financial benefit from them than Indians do.

Better negotiation and renegotiation of contracts, use of taxation power, and enforcement of Indian-preference hiring will increase the tribes' monetary return, but it is not clear that these increases will be sufficient to close the gap between Indian and non-Indian gain from reservation resources. Indians are now economically behind; if development projects they undertake are going to close the gap, Indians will have to benefit more from a development project than non-Indians.

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[30] Pratt, p. 41.

Jean Nordstrom has suggested that development projects undertaken on a scale that a tribe can finance and manage on its own, and that serve the needs of the reservation people, are more likely in the long run to promote tribal self-sufficiency and self-determination than large-scale energy projects. But there is never an easy answer in Indian economic planning. If tribes with energy resources decide not to develop them for national use, and if the energy crisis continues, the federal government may figure out some way to coerce the tribes into giving them up. A commonly acknowledged possibility is that the federal government would cut off federal programs and thereby create such poverty on reservations that tribes have no choice but to sell their energy resources. Furthermore, the promise of riches from energy development—however empty that promise might be—creates internal pressures for development. Tribal members who have been poor or suffered long periods of unemployment and deprivation quite naturally long for relief from their condition. Energy sales that can provide jobs and revenue for per capita payments look very attractive to those in great need. It takes strong discipline for people who are poor to hold out against selling in favor of retaining their environment and maintaining tribal sovereignty over their lands.

In summary, it is not at all clear that tribes will be able to control large-scale energy development. Nor is it clear that if they undertake such development they will be able to reverse the flow of wealth and thereby begin to create surplus capital for reinvestment in the Indian community. Furthermore, their efforts to control development will quite likely result in political, social, and cultural changes. For these reasons, alternative economic orientations for reservations are necessary. The success of these alternative economic programs is no more certain than the success tribes may have in controlling energy development. Thus, economic development presents many problems and inconsistencies in social and cultural values for tribes.

As tribes move along an essentially uncharted path in their efforts to gain economic stability and self-sufficiency, they will have to continue, as they have in the past, to be innovative and tenaciously persistent in defending Indian rights. It will take hard planning, negotiation, lobbying to influence federal policy, significant changes in tribal government structure, and undoubtedly a large investment in court battles to accomplish tribal control. If tribes are given the freedom and financial backing to explore alternative solutions that keep tribal history, values, traditions, current needs, and future goals in mind, they may be able to consolidate tribal control and increase flexibility in tribal resource and economic development. Whatever decisions individual tribes make about energy development, it is clear that without substantial changes, energy development is not the panacea to end Indian poverty and underdevelopment. And if the problems raised here are not solved, energy development will prove to be the latest and most devastating fiasco of federal Indian policy.

# Energy Boom Towns: Views from Within

Ronald L. Little

America's appetite for energy is enormous and well documented. With only 6 percent of the world's population, the United States is currently consuming 35 percent of the world's energy resources.[1] Between 1850 and 1975, energy consumption in the United States increased thirtyfold; it is now growing at an annual rate of about 2.5 percent.[2] Although concern for the environment dates back to the turn of the century, the political consequences of American energy consumption did not become conspicuous to the general public until the Arab oil embargo of 1973.[3] Heating-oil and gasoline scarcity were not the only issues brought to light at that time. Dependence upon foreign oil and a troubled economy made the development of domestic fossil-fuel reserves the focus of a new political debate.

If American citizens were blissfully ignorant of the restricted availability of domestic fossil fuels, the energy companies were not. Throughout the late 1960s and early 1970s, they were busy developing plans for extracting and processing ever greater amounts of coal, oil, natural gas, uranium, tar sands, and oil shale. The precise number of projects contemplated by the energy companies during the 1970s will perhaps never be known, but it is undoubtedly large. In 1975, the U.S. Environmental Protection Agency (EPA) identified hundreds of potential energy projects in Region VIII, an area comprising the states of Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming. The projects described in the EPA list included fossil-fuel as well as hydroelectric schemes. In a mail survey, the Mountain States Federal Regional Council identified 199 communities in Region VIII that were experiencing socioeconomic problems as a result of energy development. Of these communities, ninety-nine were affected by coal development, forty-five were influenced by two development projects, and ninety-nine had populations of fewer than 2,000 people.[4] Communities lacking finances, manpower skills, and a well-developed infrastructure were a significant proportion of those forced to cope with growth problems associated with energy developments.

The importance of these energy developments for the well-being of residents in the Rocky Mountain and Northern Great Plains regions cannot be underestimated. For good or ill, local residents will absorb the impacts of mineral exploitation and processing for years to come. Alterations resulting from these projects are not limited to the physical environment; they frequently entail changes in the social and political structures of impacted communities as well. Stan L. Albrecht has proposed a model of sociocultural variables associated with energy developments. He categorizes impacts into interpersonal, family, and community problems; social-service delivery problems; and changes in the physical environment that have social or quality-of-life implications.[5]

Unfortunately, only since the passage of the National Environmental Protection Act (NEPA) in 1969 has serious attention focused on the social conse-

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[1] Armand L. Mauss, *Social Problems as Social Movements* (Philadelphia: J.B. Lippincott, 1975), p. 564; Michael McKee and Ian Robertson, *Social Problems* (New York: Random House, 1975), p. 93; G. Tyler Miller, Jr., *Living in the Environment: Concepts, Problems, and Alternatives* (Belmont, Calif.: Wadsworth Publishing, 1975), p. 217.

[2] Mauss, p. 562; McKee and Robertson, p. 93.

[3] Richard P. Gale, "From Sit-In to Hike-In: A Comparison of the Civil Rights and Environmental Movements," in *Social Behavior, Natural Resources and the Environment*, ed. W. Burch, N. Cheek, and L. Gale (New York: Harper and Row, 1972), pp. 280–305; Denton Morrison, Kenneth E. Hornback, and W. Keith Warner, "The Environmental Movement: Some Preliminary Observations," in Burch, Cheek, and Gale, pp. 259–279.

[4] Mountain Plains Federal Regional Council, Committee on Socioeconomic Impacts of Natural Resource Development, Region VIII, *Socioeconomic Impacts and Federal Assistance in Energy-Impacted Communities in Federal Region VIII* (Denver, Colo.: U.S. Environmental Protection Agency, July 1975), p. 12.

[5] Stan L. Albrecht, *Socio-Cultural Factors and Energy Resource Development in Rural Areas in the West*, MS (Provo, Utah: Brigham Young University, Department of Sociology, n.d.).

quences of energy development. Nevertheless, the major emphasis of such studies has generally remained on the physical or economic impacts of development. All too often, an investigation of the strains on municipal services caused by development is mistaken for social-impact analysis.[6]

The minor emphasis placed upon the social consequences of energy developments in recent environmental impact statements seems to be the result of decision makers' assumptions that social impacts are minor or that human beings are infinitely adaptable. Whether or not people and communities should have to adapt to such projects is not asked. Social scientists are also not immune to criticism. Applied research, such as social-impact assessment, still suffers the stigma of being unprofessional or unscientific, and scholarly journals have not been eager to publish articles resulting from such work. This stigma has further inhibited adequate research and made access to the pertinent literature difficult.

In spite of the obvious shortcomings of such social-impact assessment research, the social problems associated with energy developments continue. Energy conglomerates are attempting to exploit the enormous energy reserves of the Rocky Mountain and Northern Great Plains states. Underground and surface coal mines, coal-fired electrical generating plants, coal-gasification plants, oil and natural-gas pipelines, and a myriad of other activities are planned, under construction, or already in operation in obscure communities throughout the West.

The sparsely populated Western states have been unable to supply the labor demands of these energy projects. Thus, a large pool of skilled labor from other regions of the country has migrated to the West. This immigration, along with internal migration, has provided the stimulus for social impacts. The severity of social impacts is directly related to the intensity and rapidity of population growth. If growth is too rapid, communities are unable to meet the needs of their populace, and a general social and political breakdown occurs. About the time of this breakdown, residents and outsiders begin referring to the community as a boom town. There is no point at which communities universally find themselves unable to cope with growth problems. Each community will differ depending upon a variety of factors, including the excess capacity of its municipal services, manpower availability and skills, and financial support. Problems seem to begin, however, when the annual growth rate exceeds 5 percent; boom conditions result when growth is between 10 and 15 percent.[7]

Energy development, even in the smallest of rural communities, does not dictate that boom growth and its attendant problems will occur. Economic necessities, however, require that the construction phase—the period of most rapid population growth—be compressed so as to minimize loan interest. Ives, Schulze, and Brookshire have shown that the shorter the construction period, the shorter the time period when loans are outstanding, but the greater the population growth.[8]

Even though empirical documentation of the magnitude of the problems faced by boom towns is limited, there is ample evidence to indicate the types of problems faced by communities experiencing rapid population growth.[9] In a study of mental health in Gillette, Wyoming, Kohrs found increased rates of divorce, suicide attempts, school dropouts, and alcoholism. He also noted that these rates increased more rapidly than the rate of population increase.[10] In a study of Rock Springs, Wyoming, Gilmore and Duff found that "rates of alcoholism, broken homes, suicide and suicide attempts, and down-and-outs have increased."[11] Gold discovered that southeastern Montana towns have experienced increased crime as well as intracommunity conflicts as a result of coal developments,[12] and I have observed similar problems in Page, Arizona.[13] Nellis recorded a shifting political base resulting from coal development in Hanna, Wyoming.[14] Similar structural breakdowns have been described by Cortese and Jones in studies of Center and Langdon, North Dakota, and Rock Springs, Wyoming.[15]

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[6] U.S. Department of the Interior, *Draft Environmental Impact Statement: Kaiparowits Project* (Washington, D.C.: U.S. Government Printing Office, 1975); U.S. Department of the Interior, *Final Environmental Impact Statement: Kaiparowits Project* (Washington, D.C.: U.S. Government Printing Office, 1976); U.S. Department of the Interior, *Draft Environmental Impact Statement: Navajo-Exxon Uranium Development* (Washington, D.C.: U.S. Government Printing Office, 1976); U.S. Department of the Interior, *Final Environmental Impact Statement: Proposed Coal Gasification Project and Expansion of Navajo Mine by Utah International, Inc., San Juan County, New Mexico* (Washington, D.C.: U.S. Government Printing Office, 1976).

[7] John S. Gilmore and Mary K. Duff, *Boom Town Growth Management: A Case Study of Rock Springs–Green River, Wyoming* (Boulder, Colo.: Westview Press, 1975); Ronald L. Little, "Some Social Consequences of Boom Towns," *North Dakota Law Review*, 53, No. 3 (1977), 401–425.

[8] B. C. Ives, W.D. Schulze, and D.S. Brookshire, "Boomtown Impacts of Energy Development in the Lake Powell Region," *Lake Powell Research Project Bulleitn*, No. 28 (Los Angeles: University of California, Los Angeles, Institute of Geophysics and Planetary Physics, 1976).

[9] William R. Freudenburg, *The Social Impact of Energy Boom Development on Rural Communities: A Review of Literatures and Some Predictions*. Paper presented at the annual meeting of the American Sociological Association, New York, August 1976; Little.

[10] ElDean V. Kohrs, *Social Consequences of Boom Growth in Wyoming*. Paper presented at the annual meeting of the Rocky Mountain and Southwestern Division of the American Association for the Advancement of Science, Laramie, Wyo., July 1974.

[11] Gilmore and Duff, p. 12.

[12] Raymond L. Gold, *Trespass Behavior and Coal Development in Southeastern Montana*. Paper presented at the Tri-State Humanities Conference, Billings, Mont., 1974; Gold, "How Southeastern Montanans View the Coal Development Issue," *Western Wildlands*, 1, No. 4 (1974), 16–20; Gold, *Social Impacts of Strip Mining and Other Industrializations of Coal Resources* (Missoula: University of Montana, Institute for Social Science Research, n.d.).

[13] Little.

In spite of the serious social problems that have resulted from past energy developments, many Americans are anxious to see the rapid utilization of all available fossil fuels in the largely rural and sparsely populated, but energy-rich, West. Richard Nixon's proposed "Project Independence" provided decision makers and the public alike with a rationale for the immediate development of these resources, even though the concept behind this project has been seriously challenged.[16] The daily horror stories about such towns as Rock Springs and Gillette, Wyoming, exposed by television and the press appear to have had little influence on public opinion or national energy policies. New boom towns continue to spring up in the West, and migrants continue to swell the ranks in the older boom communities. Meanwhile, local public officials assert that no problems exist in their towns.

In the summer of 1974, a group of colleagues and I undertook a study in the Lake Powell region of the American Southwest to assess the consequences of several existing energy projects and to collect baseline data prior to the beginning of a proposed coal-fired electrical generating facility. The area surrounding Lake Powell is rich in coal, oil, natural-gas, and uranium deposits. The Glen Canyon Dam also provides hydroelectric power for Bureau of Reclamation projects in the region. At the time of this study, the national gasoline shortage was easing, but tourism—the area's major industry—was still declining.

Five communities surrounding Lake Powell were selected for inclusion in this study: Blanding, Monticello, Kanab, and Escalante, Utah, and Page, Arizona. These five communities do not represent a random sample of the area's towns. Instead, they were selected for the following reasons: first, each town is a major population center and a locus of relative political and economic importance in the region; second, each is close to Lake Powell and to a variety of energy deposits; third, each community has been exposed to and influenced by one or more energy developments associated with the coal, oil, natural-gas, or uranium deposits in the region. The extent of energy involvement, the duration of exposure to energy development, and the resource exploited varied for each town. Thus, depending upon the information sought, each community could serve as a control for the others.

In the summer of 1975, a similar study was also undertaken to determine the consequences of coal development in Big Horn County, Montana. This study focused on the social and economic effects of the leasing, extraction, and processing of Crow Indian coal. Because the development of the Indian coal was intimately linked with the surrounding non-Indian and non-Spanish population, a section of this study was also devoted to an examination of the consequences of coal leasing for Hardin, Montana, the area's major Anglo community.

In this essay, I shall describe the attitudes, rationales for these attitudes, and expectations of the residents in these six communities in the Lake Powell and Big Horn County, Montana, regions. Depending upon the definition used, each of these communities could have been classified as an energy boom town at some time. There are very few empirical data on the beliefs, attitudes, and opinions of people who live in energy boom towns. The data presented here provide insight into how residents in these towns think about past energy projects, why they think the way they do, and what they expect from energy projects in the future.

## Communities Studied

The first two communities in the Lake Powell study were Monticello and Blanding, Utah. These two communities are located in San Juan County, in the southeastern corner of the state, where Utah intersects with Colorado, New Mexico, and Arizona. At the time of the study, Monticello had a population of 1,829 and Blanding 2,773. Both communities, according to survey data obtained from the study, were predominately Mormon; the percentage of Mormons was 84.1 in Blanding and 63.8 in Monticello.

Monticello and Blanding are only twenty-six miles apart. During the 1950s and 60s, both communities experienced prolonged exposure to uranium and oil exploration, extraction, and processing. The most disrupting social influences from these energy-related activities occurred during the uranium boom of the 1950s. To a lesser degree, both communities have also felt the effects of construction and pollution from the 2,085-megawatt Four Corners and the 1,690-megawatt San Juan power plants near Farmington, New Mexico, 130 miles away. Since San Juan County borders the Navajo reservation, the Black Mesa coal mine and the Black Mesa–Lake Powell railroad—an electric railway constructed to haul reservation coal from the mine to the Navajo Generating Station in Page, Arizona—have also affected social conditions in these towns.

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[14] Lee Nellis, "What Does Energy Development Mean for Wyoming?" *Human Organization*, 33, Fall (1974), 229–238.

[15] Charles F. Cortese and Bernie Jones, "The Sociological Analysis of Boom Towns," *Western Sociological Review*, 8, No. 1 (1977), 76–90.

[16] Montana Department of Natural Resources and Conservation, "National Energy Self-Sufficiency: Its Viability and Implications for Montana," *Western Wildlands*, 1, No. 4 (1974), 6–15.

The third community in the Lake Powell investigation was Kanab, Utah, located near Zion and Bryce national parks. In the summer of 1974, Kanab's population was 2,349, of whom 84.1 percent were Mormon. During the early construction phase of the Glen Canyon Dam, Kanab served as the temporary headquarters for the Bureau of Reclamation. In this capacity, the town experienced moderate impacts during the first two years of the dam's construction, but when the Bureau of Reclamation headquarters were moved to Page, Arizona, these impacts abated. These effects were further minimized because a road to the dam site and a bridge across the Colorado River were not completed until the construction community had been established at Page.

At the time of the study, Kanab had not been affected directly by coal or uranium developments, but residents had participated to a small extent in the construction of the 2,259-megawatt Navajo Generating Station and in oil developments near Escalante, Utah. Nevertheless, the town did anticipate massive social and economic changes from the proposed 3,000-megawatt Kaiparowits Generating Station and from attendant mining operations. In April 1976, two of the four companies organized as a consortium to develop the Kaiparowits project withdrew, and for all practical purposes the project died. Recent press reports, however, indicate that attempts will be made to mine the approximately 2.9 billion tons of coal on the Kaiparowits Plateau.

Escalante, Utah—the fourth community selected for inclusion in the study—had a population of 843. Like Monticello, Blanding, and Kanab, Escalante was settled by members of the Church of the Latter-Day Saints in the late 1800s,[17] and today 79.2 percent of the population still embrace the Mormon faith. Escalante is an idyllic wilderness community whose geography and politics have kept it relatively isolated from twentieth-century industrialization. It was not until 1961 that an oil road was completed into the community,[18] but, in recent years, the town has felt some of the effects of its energy-rich location. The nearby Upper Valley oil field and the contractors for the Glen Canyon Dam have employed some residents of Escalante. In addition, the town has participated in a brief flurry of uranium exploration, and it expected major social and economic changes from the proposed, but still to be implemented, Kaiparowits and Emery power projects.

The fifth community in the study was Page, Arizona, a town of 6,496 people located on the Colorado River near the Utah-Arizona border.[19] Page was a federal community created by the construction of the Glen Canyon Dam and was under the control of the Bureau of Reclamation until March 1975. Although Page is located just sixty-eight miles from Kanab and near the other Utah communities, Mormons comprise only 12.9 percent of the town's population. Many of Page's residents were present during the rough and tumble days of the construction of Glen Canyon Dam between 1957 and 1966, and all have experienced the effects of the construction of the Navajo Generating Station, located on the outskirts of the town. Page has also been affected by surface-mining operations at Black Mesa and the construction of the Black Mesa–Lake Powell railroad. Like the people of Kanab, many Page residents were also looking with anticipation to the construction of the proposed Kaiparowits project.

Finally, Hardin, Montana, like the Utah communities, is rural in lifestyle and population. Although it is the largest community in Big Horn County and its birth rate is higher than the national average, Hardin's population in 1975 was only 2,812. Like Page, Hardin has experienced the effects of a variety of energy developments, including the construction of the Yellowtail Dam, located forty-four miles south of the town. Also, like Blanding, Hardin is adjacent to tribal lands—the Crow Indian reservation—from which large amounts of coal are being extracted. The Colstrip surface mine and power plant—located about fifty miles east of the town—have had effects on Hardin, and Westmoreland Resources' Sarpy Creek mine is only twenty-five miles east of the town.

## Research Methods

In each of the six communities, trained interviewers administered open-ended interview schedules over a period of weeks to a simple random sample of household heads. Researchers chose the samples from household maps in Hardin and Page and from water and sewer hookup master lists in the other four communities. They consulted utility company service workers to insure that multiple households sharing the same hookup were not excluded, and they thoroughly canvassed the communities to locate multiple dwelling units and trailers.

In the Lake Powell study, interviewers obtained 407

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[17] Leonard J. Arrington, *Great Basin Kingdom: An Economic History of the Latter-Day Saints, 1830–1900* (Lincoln: University of Nebraska Press, 1966); Nethella G. Woolsey, *The Escalante Story: A History of the Town of Escalante, and Description of the Surrounding Territory, Garfield County, Utah, 1875–1964* (Springfield, Utah: Art City Publishing Company, 1964); Cornelia A. Perkins, Marian G. Nielson, and Lenora B. Jones, *Saga of San Juan*, 2nd ed. (n.p.: San Juan County Daughters of Utah Pioneers, Mercury Publishing Company, 1968).

[18] Woolsey, p. 190.

[19] Morgan J. Williams, Henry H. Frost, and Willis E. Sibley, "Page, Arizona—A Rootless Community?" *Proceedings of the Utah Academy of Sciences, Arts, and Letters*, 37 (1959–60), 97–101; Jean Duffy, "Page, Arizona: The Town a Dam Built," *Arizona Highways*, January 1964, pp. 2–8.

OPEN ROAD
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"WALDEN POND"

questionnaires between June and September of 1974, with a completion rate of 92.7 percent. Two interviewers from Lake Powell canvassed seventy-two Hardin residents in June and July of 1975, with a completion rate of 75.8 percent. Seventy residents of Page, ninety-six in Escalante, eighty-two in Kanab, seventy-nine in Blanding, and eighty in Monticello responded to the survey. The number of interviews completed was partly a function of the researchers' commitments to collect data for coordinated projects, and the four Utah communities were oversampled.

In addition to standard demographic questions, the interviewers asked a variety of unstructured questions regarding the residents' attitudes, rationales for their attitudes, and expectations about existing, proposed, or hypothetical energy developments in the area. Questions were parallel, and in most instances identical, in both studies. Because different energy projects were present in the two regions, names of the appropriate developments were inserted into otherwise identical questions.

With samples from six communities and with three variables—attitudes, rationales for attitudes, and expectations—comparisons soon became cumbersome. Because the four Utah communities, all predominantly Mormon, were culturally homogeneous, the researchers decided to combine them into a single sample. Statistical analysis confirmed the similarity of the four communities. Frequency distributions for age, occupation, education, and income differed little among them.

Assuming that age, occupation, education, and income provide reasonable indices of a community's homogeneity, researchers calculated an index of net difference ($ND_{xy}$) for each of the six pairs of Utah communities for each of these four variables. That is, they paired every community with every other community, weighted the results according to sample proportions, and calculated $ND_{xy}$ for income, occupational, educational, and age structures. $ND_{xy}$ is the difference between the probability that x is greater than y and the probability that y is greater than x for any two randomly paired scores on x and y; its maximum value is ±1.0.[20] Of the twenty-four indices calculated for the Utah communities, 83.3 percent were less than or equal to ±0.17, and 91.7 percent were less than or equal to ±0.23. The low absolute values of $ND_{xy}$ provide more evidence that the communities were very similar.

### Attitudes toward Energy Projects

Questions about attitudes frequently are phrased in terms of the contemporary scene or some contemplated future state. Because people have difficulty conceptualizing what the future holds, questions posited prospectively may generate random responses that are subject to change after exposure to the anticipated events. It is unfortunate that this problem cannot be avoided, because questions about planned energy developments were an important part of this study. Phrasing questions in the present may also create difficulties. A variety of psychological mechanisms, such as cognitive dissonance, can interfere with a person's ability to give an accurate assessment of his or her internal state.

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[20] When all values in a distribution are considered, $ND_{xy}$ is an adjunct to the median. See Stanley Lieberson, "Rank-sum Comparisons between Groups," in *Sociological Methodology*, ed. David Heise (San Francisco: Jossey-Bass, 1976), pp. 276–291.

To avoid errors of interpretation arising from these problems, researchers in the two studies asked respondents: "Knowing what you now know, if the following projects had never been built, and you had the sole power to determine whether they were to be built/developed or not, would you build/develop (names of projects)?" The phrasing of this question was meant to limit the extent of vagueness in eliciting whether the respondents favored the energy developments or not, and to mitigate the dissonance respondents might experience in judging those projects about which they might assume their neighbors felt differently. These questions were to provide respondents with a hypothetical situation over which they could have absolute control. The answers then could be used to infer the respondents' internal states. If interviewees indicated they would not build a particular power project, researchers assumed that their attitude was negative toward that development.

### *Combined Utah Communities*

All household heads in the five Lake Powell communities were asked about the Black Mesa–Lake Powell Railroad, various oil and uranium developments in the region, the Glen Canyon Dam, the Navajo Generating Station, the Four Corners power plant, and the Black Mesa mines. Persons were also asked about the proposed Kaiparowits Generating Station, which was then approaching the deadline for a decision by the Secretary of the Interior on whether or not construction approval would be granted.

Table 1 shows the extent to which Utah respondents were ready to accept the various energy developments. All seven of the extant projects, as well as the proposed Kaiparowits project, received overwhelming approval. The Black Mesa–Lake Powell Railroad received the least support; even so, 77.5 percent of the respondents indicated unqualified support for it, and an additional 1.1 percent gave it their qualified support. Thus, 78.6 percent of the respondents endorsed a project that has had only minimal economic and social effects on the local Anglo populations. Virtually all of the electric railway is located on Navajo tribal lands, and it employs relatively few Anglo or Navajo workers. Local residents viewed the railway as a necessary mechanism for transporting coal seventy-five miles from Black Mesa to the Navajo Generating Station, and they saw it as an example of American technical ingenuity.

On the other hand, oil and natural gas developments in Aneth, Upper Valley, and Lisbon Valley received the greatest support; 93.0 percent of the respondents indicated that even with the benefit of hindsight, they would undertake such developments. Fewer than 1 percent offered only qualified approval. It should be pointed out, however, that the survey was conducted just after the 1973 Arab oil embargo and the national gasoline shortage. Perhaps the heightened awareness of American dependence on foreign oil explains part of the extraordinarily high approval rating accorded these oil developments. Undoubtedly, the respondents' own economic interests and well-being were also expressed in their approving responses, inasmuch as oil stimulated the greatest economic activity for Anglos in the Utah communities.

It is unlikely that in showing support for clean-burning fuels such as oil and natural gas, these people were expressing environmental concerns. Their hostility toward environmentalists is well documented.[21] Instead, their positive responses regarding oil developments appear to stem from political and economic motives.

Even though expectations were high that the proposed Kaiparowits project would bring an economic boom to the region and allow local youth to remain at home rather than migrate for employment, the approval rate for the proposed Kaiparowits Generating Station was slightly under 82 percent. By comparison, the average unqualified approval rate for the other seven developments was 84.8 percent. An additional 3 percent of those interviewed gave their qualified support to the project; nevertheless, it still ranked only sixth among the eight energy developments.

This comparatively lukewarm endorsement is somewhat surprising, given the opposition exhibited by the region's residents toward those attempting to block the Kaiparowits project.[22] That enthusiasm for this particular project was less intense than might have

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[21] John L. Dotson, Jr., "Duel in the Sun," *Newsweek*, 27 October 1975, p. 10; Robert S. Halliday, "Kaiparowits Parley Disrupted," *Salt Lake Tribune*, 11 January 1976, p. B-1; Halliday, "Kaiparowits Issue Full of Passion," *Salt Lake Tribune*, 18 January 1976, p. B-1; Grace Lichtenstein, "Kaiparowits Has Become a Fighting Word in Utah," *New York Times*, 23 November 1975, p. E3; Ronald L. Little, "Rural Industrialization: The Four Corners Region," in *Social Implications of Energy Scarcity: Social and Technological Priorities in Steady State and Constricting Systems*, ed. Lewis Carter and Louis Gray (Pullman: Washington State University, Department of Sociology and Social Research, 1975); Little, "Some Social Consequences of Boom Towns"; Michael Parfit, "Showdown at Kaiparowits," *New Times*, April 1976, pp. 46–53.

[22] Halliday, "Kaiparowits Parley Disrupted"; Halliday, "Kaiparowits Issue Full of Passion."

**TABLE 1**

*Number and Percentage[a] of Combined Utah Communities Household Heads Who Would Develop Energy Sources in the Four Corners Region*

| | *Black Mesa–Lake Powell Railroad* | | *Oil Developments* | | *Glen Canyon Dam* | | *Navajo Generating Station* | | *Uranium Development* | | *Four Corners Power Plants* | | *Black Mesa Coal Mine* | | *Kaiparowits Generating Station[b]* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Response* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* |
| Would Develop | 148 | 77.5 | 295 | 93.0 | 288 | 91.3 | 215 | 83.3 | 246 | 85.6 | 180 | 83.3 | 159 | 79.6 | 242 | 81.8 |
| Develop Qualified | 2 | 1.1 | 2 | 0.7 | 2 | 0.3 | 3 | 0.9 | 5 | 2.5 | 4 | 1.6 | 0 | 0.0 | 9 | 3.0 |
| Ambivalent | 1 | 0.7 | 2 | 0.5 | 6 | 1.9 | 3 | 1.1 | 5 | 1.9 | 3 | 0.6 | 2 | 1.3 | 16 | 5.3 |
| Would Not Develop | 33 | 20.6 | 14 | 5.8 | 20 | 6.5 | 33 | 14.7 | 30 | 10.1 | 29 | 14.5 | 33 | 19.1 | 26 | 9.9 |
| Total Responding | 184 | 100.0 | 313 | 100.0 | 316 | 100.0 | 254 | 100.0 | 286 | 100.0 | 216 | 100.0 | 194 | 100.0 | 293 | 100.0 |
| No Response | 153 | | 24 | | 21 | | 83 | | 51 | | 121 | | 143 | | 44 | |
| *Total* | 337 | | 337 | | 337 | | 337 | | 337 | | 337 | | 337 | | 337 | |

[a] Percentages are weighted to correct for disproportionate sampling fractions.
[b] Proposed 3,000-megawatt coal-fired electrical generating plant.

been anticipated may reflect the frustration local people felt about their inability to manage a project that would directly affect their lives. The energy consortium attempting to go forward with this project was controlled by interests outside of the region; the federal government owned the coal and had ultimate control over the project; and environmentalists, largely living outside the immediate area, were delaying a desired project in the courts.

Although Table 1 demonstrates the high degree of support for all of the energy developments, it does not necessarily follow that all respondents were consistent in their responses to the various projects. Table 2 demonstrates a pattern of consistency, as evidenced by the generally high correlations (*gammas*) between individuals' responses to different energy projects.[23] Those interviewed were nonetheless able to discriminate among the eight developments and did not respond in a general way toward energy or employment. Three distinct clusters of responses can be discerned: first, to the Black Mesa mine, Black Mesa–Lake Powell Railroad, Navajo Generating Station, and Four Corners Generating Station; second, to oil developments, Glen Canyon Dam, and Kaiparowits Generating Station; third, to the uranium developments.

*Gammas* for the first cluster all exceeded 0.86, indicating similar responses to the four projects. Much lower intercorrelations, ranging from 0.53 to 0.75, were obtained for the second cluster. The final cluster shows variable correlations with the other projects. This seems to reflect a more critical attitude on the part of area residents toward an economic activity they have experienced directly. In the 1950s, uranium raised expectations and hopes but never brought large rewards to most residents. Since then, uranium activities have ebbed and flowed. Remaining an unstable endeavor, they have never provided substantial and sustained employment or economic gains for area residents.

### *Page, Arizona*

Interviewers asked residents of Page about the same eight projects they questioned people about in the Utah communities. Like the combined sample, Page residents were least supportive of the Black Mesa–Lake Powell Railroad. Nevertheless, as indicated in Table 3, 75.1 percent gave unqualified support to the project and no one provided only qualified support. This result is somewhat anomalous because the railway serves as the vital link between the mine at Black Mesa, which was approved by 85.8 percent of those interviewed, and the Navajo Generating Station, which received unqualified approval from 85.3 percent of the respondents. The relatively strong endorsement for the mine and power plant was not unexpected, since 79 percent of the sample were economically dependent upon the two projects, but none was dependent upon the railway. What is surprising, however, is the exceptional enthusiasm—95.3 percent approval—for Glen Canyon Dam, which employed no

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[23] *Gamma* ignores ties on either the dependent or the independent variable. Since all responses were coded into only four categories, there was a high proportion of ties, and *gammas* were based on very few cases. For interpretations of *gamma*, see Ron H. Mueller, Karl F. Schuessler, and Herbert L. Costner, *Statistical Reasoning in Sociology*, 3rd ed. (Boston: Houghton Mifflin, 1977).

**TABLE 2**

*Correlations*[a] *between Approval Ratings by Project for Combined Utah Communities*

| *Project* | *Black Mesa Coal Mine* | *Black Mesa–Lake Powell Railroad* | *Navajo Generating Station* | *Four Corners Generating Station* | *Oil Developments* | *Glen Canyon Dam* | *Kaiparowits* | *Uranium Developments* |
|---|---|---|---|---|---|---|---|---|
| Black Mesa Coal Mine | —— | | | | | | | |
| Black Mesa–Lake Powell Railroad | .97 | —— | | | | | | |
| Navajo Generating Station | .92 | .90 | —— | | | | | |
| Four Corners Generating Station | .88 | .86 | .92 | —— | | | | |
| Oil Developments | .86 | .74 | .76 | .70 | —— | | | |
| Glen Canyon Dam | .84 | .64 | .71 | .80 | .55 | —— | | |
| Kaiparowits | .74 | .67 | .82 | .89 | .75 | .53 | —— | |
| Uranium Developments | .74 | .73 | .40 | .33 | .71 | .25 | .17 | —— |

[a] *Gammas*, calculated on percentages corrected for disproportionate sampling fractions.

one in the sample. Employment patterns make it clear that economic dependency cannot account for the popularity of the dam. It can only be surmised that the recreational opportunities afforded by the waters of Lake Powell provide the motivation for approval of the dam.

Unlike the Utah sample, Page residents did not provide exceptionally strong support for oil and natural-gas developments; 81.2 percent gave unqualified affirmation, and another 2.1 percent provided qualified support. This result is explained in part by the fact that while approximately 7 percent of the Utah sample were dependent upon the oil industry, the largest of the seven economic developments, no one in the Page sample was employed by that industry. Furthermore, Page is the community farthest from the oil fields of any of the five studied in the Lake Powell region. As with the Utah communities, the responses of Page residents cannot be linked solely to economic interests, although economics undoubtedly plays a part in the explanation. The responses in Page remained high for all projects, as in the Utah communities; the approval rate was 83.3 percent. Relative support for different projects, however, differed substantially.

Of special interest is the extent to which Page residents favored the proposed Kaiparowits project. They were slightly more inclined than Utah residents—85.1 percent compared with 81.8 percent—to support the future energy development. This result is peculiar; although many construction workers at the Navajo Generating Station were undoubtedly planning to work on the nearby Kaiparowits project, many would have moved to other distant construction sites before it was to have begun.[24] At the same time, most residents of the Utah communities would have remained to enjoy the perceived benefits of the project. Thus, perceived economic benefits cannot explain the differences between the two levels of support. Other factors, particularly social ones, must be considered.

While providing strong support for each of the projects, Page household heads were also unusually consistent in their responses. If a respondent approved of one project, he or she tended to approve of the others as well. Table 4 shows that the range of *gammas* is severely restricted: the lowest is 0.62, while the highest is 1.0. In contrast to the Utah data, no readily identifiable clusters emerge. This pattern of intercorrelations indicates that Page respondents tended to view the assorted projects as elements of a generalized industrial, energy, or economic grouping. All projects tend to be evaluated the same. Even in the absence of clear groupings, respondents were inconsistent in their answers to questions regarding the Black Mesa–Lake Powell Railroad, the Kaiparowits Generating Station, and oil developments. This inconsistency may be explained by Page residents' lack of involvement with those projects. Since the Utah respondents demonstrated a strong correlation among the proposed and existing power plants, past experience can only provide a partial explanation.

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[24] Ronald L. Little and Stephen Lovejoy, "Employment Benefits from Rural Industrialization," *Lake Powell Research Project Bulletin*, No. 56 (Los Angeles: University of California, Los Angeles, Institute of Geophysics and Planetary Physics, 1977).

**TABLE 3**

***Number and Percentage of Page Household Heads Who Would Develop Energy Sources in the Four Corners Region***

| | *Black Mesa–Lake Powell Railroad* | | *Oil Developments* | | *Glen Canyon Dam* | | *Navajo Generating Station* | | *Uranium Development* | | *Four Corners Power Plant* | | *Black Mesa Coal Mine* | | *Kaiparowits Generating Station*[a] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Response* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* |
| Would Develop | 42 | 75.1 | 39 | 81.2 | 61 | 95.3 | 52 | 85.3 | 34 | 77.3 | 46 | 83.7 | 48 | 85.8 | 51 | 85.1 |
| Develop Qualified | 0 | 0.0 | 1 | 2.1 | 0 | 0.0 | 1 | 1.6 | 0 | 0.0 | 1 | 1.8 | 0 | 0.0 | 1 | 1.7 |
| Ambivalent | 1 | 1.8 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 1.8 | 0 | 0.0 |
| Would Not Develop | 13 | 23.1 | 8 | 16.7 | 3 | 4.7 | 8 | 13.1 | 10 | 22.7 | 8 | 14.5 | 7 | 12.6 | 8 | 13.3 |
| Total Responding | 56 | 100.0 | 48 | 100.0 | 64 | 100.0 | 61 | 100.0 | 44 | 100.0 | 55 | 100.0 | 56 | 100.0 | 60 | 100.0 |
| No Response | 14 | | 22 | | 6 | | 9 | | 26 | | 15 | | 14 | | 10 | |
| *Total* | 70 | | 70 | | 70 | | 70 | | 70 | | 70 | | 70 | | 70 | |

[a] Proposed 3,000-megawatt coal-fired electrical generating plant.

**TABLE 4**

*Correlations[a] between Approval Ratings by Project for Page*

| *Project* | *Navajo Generating Station* | *Four Corners Generating Station* | *Kaiparowits* | *Uranium Developments* | *Black Mesa Coal Mine* | *Oil Developments* | *Glen Canyon Dam* | *Black Mesa–Lake Powell Railroad* |
|---|---|---|---|---|---|---|---|---|
| Navajo Generating Station | ——— | | | | | | | |
| Four Corners Generating Station | 1.00 | ——— | | | | | | |
| Kaiparowits | .98 | .97 | ——— | | | | | |
| Uranium Developments | .97 | .89 | .86 | ——— | | | | |
| Black Mesa Coal Mine | .94 | .90 | .86 | .97 | ——— | | | |
| Oil Developments | .86 | .84 | .62 | .98 | .85 | ——— | | |
| Glen Canyon Dam | .85 | .91 | .71 | .89 | .92 | .91 | ——— | |
| Black Mesa–Lake Powell Railroad | .80 | .89 | .67 | .89 | .88 | .77 | .93 | ——— |

[a] *Gammas.*

### *Hardin, Montana*

For the most part, the responses of the residents of Hardin to the four nearby power developments included in the interview were even more affirmative than those given other projects in the Utah communities and Page. Tabel 5 shows that 89.2 percent of Hardin residents approved of both the Sarpy Creek mine and the Yellowtail Dam. They were least enamored of the Colstrip power plants, with the difference—1.9 percent—so small as to be readily accountable for by sampling error. Not only was opposition to the four projects minimal, averaging approximately 10 percent, but qualified support, that is, support tendered upon appropriate environmental or social safeguards, was virtually nonexistent.

However, when asked if they would be in favor of a hypothetical coal-fired electrical generating facility or a coal-gasification plant, the proportion of residents giving favorable responses was drastically reduced. Further indicating their reluctance to support a major new facility was the appearance of a significant number of responses indicating only qualified support. This pattern of responses indicates that perhaps past experiences with energy developments have caused

**TABLE 5**

*Number and Percentage of Hardin Household Heads Who Would Develop Energy Sources in the Hardin, Montana, Area*

| | *Sarpy Creek Mine* | | *Colstrip Mine* | | *Colstrip Power Plants* | | *Yellowtail Dam* | | *Hypothetical Generating or Gasification Plant* | |
|---|---|---|---|---|---|---|---|---|---|---|
| *Response* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* |
| Would Develop | 58 | 89.2 | 52 | 88.1 | 48 | 87.3 | 58 | 89.2 | 39 | 55.7 |
| Develop Qualified | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 3.1 | 12 | 17.1 |
| Ambivalent | 1 | 1.5 | 1 | 1.7 | 0 | 0.0 | 0 | 0.0 | 1 | 1.4 |
| Would Not Develop | 6 | 9.3 | 6 | 10.2 | 7 | 12.7 | 5 | 7.7 | 18 | 25.8 |
| Total Responding | 65 | 100.0 | 59 | 100.0 | 55 | 100.0 | 65 | 100.0 | 70 | 100.0 |
| No Response | 7 | | 13 | | 17 | | 7 | | 2 | |
| *Total* | 72 | | 72 | | 72 | | 72 | | 72 | |

**TABLE 6**

*Correlations[a] between Approval Ratings by Project for Hardin*

| *Project* | *Sarpy Creek Mine* | *Colstrip Mine* | *Colstrip Power Plant* | *Gasification Plant* | *Yellowtail Dam* |
|---|---|---|---|---|---|
| Sarpy Creek Mine | —— | | | | |
| Colstrip Mine | 1.00 | —— | | | |
| Colstrip Power Plant | 1.00 | 1.00 | —— | | |
| Gasification Plant | .70 | .89 | .74 | —— | |
| Yellowtail Dam | -1.00 | -1.00 | -1.00 | -.33 | —— |

[a] *Gammas.*

Montana residents to be cautious and skeptical of promised results.[25] Whether or not past experience has altered their views toward energy development, it is clear from observation that the boosterism so common in such Western energy towns as Craig, Colorado, Page, Arizona, and Kanab, Utah, was not present in Hardin at the time of the survey.

Even though Hardin residents were generally supportive of all five projects, they were nonetheless capable of discerning among them. From Table 6, it is apparent that the responses to the projects cluster into three groups. In a manner contrary to the Page data, and quite logically, Sarpy Creek mine, Colstrip mine, and Colstrip power plant all cluster together with perfect correlations of 1.0.[26] Yellowtail Dam and the hypothetical gasification plant stand alone in the remaining two clusters. The hypothetical plant correlates moderately well with all of the other fossil-fuel projects, but there is a strong negative correlation between Yellowtail Dam and all of the other projects. These negative correlations are the result of responses by a few Hardin residents—fewer than 10 percent of the population—who were in favor of the other projects but adamantly opposed to the dam. Some residents developed rather high expectations regarding the economic and recreational benefits which were to accrue to Hardin as a result of the dam's construction, and these same residents felt that the benefits had not been forthcoming.

The general attitudinal patterns observed in the Utah communities, Page, and Hardin are remarkably similar. Residents of all three areas indicated strong support for a variety of existing energy projects as well as for hypothetical and proposed projects. These high levels of support would seem to contradict much of the available literature.[27] The consistency is all the more surprising, insofar as the Hardin data were obtained later than the Lake Powell data.

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[25] Gold, "Trespass Behavior."

[26] Because of the high frequency of ties, *gammas* of 1.0, based on only a few cases, are not unusual.

Hardin, however, does provide one particularly noteworthy exception. The reluctance of residents there to give an unqualified endorsement to future energy projects perhaps indicates a shift in priorities from unrestricted growth to a consideration of other factors in conjunction with economic progress. Undoubtedly Montana's heated political debate over coal development and the resultant restrictions on that development, such as the imposition of the coal severance tax, created a new awareness of environmental concerns, if not a change in priorities.[28]

## Rationales for Attitudes

In addition to the questions concerning attitudes toward the various energy developments, the interviewers also asked other questions in order to discover the underlying logic that supported or justified the attitudes. That is, the respondents were also asked to specify their reasons for favoring or not favoring the different energy projects. Respondents specified as many reasons as they wished for their attitudes. For analytic reasons, however, we have assumed that the first reason mentioned was most salient. Researchers then calculated the proportion of responses that fell into each category by adding responses in that category across all projects and dividing by the total number of responses for all projects. The proportions for the combined Utah communities were weighted to correct for unequal sampling fractions.

### *Combined Utah Communities*

Table 7 shows that most of the respondents in the Utah communities supported the energy projects because they perceived them to be socially beneficial. Except for the Black Mesa–Lake Powell Railroad, respondents cited "need power" and "employment/economic benefits" most frequently as the reasons for their approval of the other energy projects. For the seven existing projects, "need power" ranked highest as the reason for approval, comprising 51.7 percent of all responses for those prjects. It was cited about twice as frequently as "employment/economic benefits."

The pattern and percentages for the negative responses roughly parallel the pattern for the positive ones. Respondents who expressed disapproval of the energy projects also mentioned "do not need power" and negative "employment/economic" factors, but they showed a slightly higher concern for the environment. Because of the generally favorable view respondents took of the energy projects, however, concern for the environment represented only 4 percent of the total responses.

When asked about the proposed Kaiparowits project, respondents totally reversed "need power" and "employment/economic benefits" as their reasons for approval. The number of respondents citing "employment/economic benefits" was nearly 80 percent greater than the number citing "need power" as the reason for favoring this project, with 49.5 percent giving the former reason as their response and 29.7 the latter.

This reversal in responses between the proposed Kaiparowits and the other projects raises some interesting problems of interpretation. First, how can we explain the preponderance of "need power" responses for the existing projects? Eighty percent of the Utah sample were not employed by the seven existing energy projects and these people perceived the economic benefits of the projects as minimal. On the other hand, 19.1 percent of the people in the Utah sample were employed by the energy firms, and these people took the benefits of energy development for granted and generalized such benefits to other projects. None of the respondents, however, was capable of exercising any control over the costs or benefits of existing energy projects. Hence, it is reasonable to assume that attempts to reduce cognitive dissonance and altruistic or nationalistic considerations, rather than personal economic motives, explain the high preponderance of the "need power" response as a reason for favoring the seven existing projects.

How, though, are we to explain the reasons—primarily "employment/economic benefits"—for favoring the Kaiparowits project? The Navajo Generating Station is located only a few air miles from the site of the proposed Kaiparowits power plant. One would expect that the reasons given for supporting the Navajo Generating Station, or even the Four Corners power plant, would be the same as those for the Kaiparowits project. Yet, Table 7 demonstrates that this is clearly not the case. The consequences of the existing power projects were already evident and beyond the control of people in the Utah sample. In the face of an uncertain future, these people tended to place their hopes on the supposed economic benefits of the Kaiparowits project as these were defined by the publicists of the energy industry.

In a general sense, southeastern Utah has been undergoing dedevelopment since 1940, and its resi-

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[27] Freudenburg.

[28] Paul Hawks, "Units 3 and 4 at Colstrip," *Western Wildlands*, I, No. 4 (1974), 29–32; Alvin M. Josephy, Jr., "Agony of the Northern Plains," *Audubon*, 75, No. 4 (1973), 68–101; Montana Department of Natural Resources and Conservation; Northern Great Plains Resources Program, *Effects of Coal Development in the Northern Great Plains: A Review of Major Issues and Consequences at Different Rates of Development* (Denver, Colo.: n.p., 1975).

**TABLE 7**

***Primary Reasons of Combined Utah Communities Household Heads for Attitudes toward Energy Development in the Four Corners Region***

| | *Black Mesa–Lake Powell Railroad* | | *Oil Developments* | | *Glen Canyon Dam* | | *Navajo Generating Station* | | *Uranium Development* | | *Four Corners Power Plants* | | *Black Mesa Coal Mine* | | *Kaiparowits Generating Station* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Response* | *No.* | *Pct.*[a] | *No.* | *Pct.*[a] | *No.* | *Pct.*[a] | *No.* | *Pct.*[a] | *No.* | *Pct.*[a] | *No.* | *Pct.*[a] | *No.* | *Pct.*[a] | *No.* | *Pct.*[a] |
| *Positive* | | | | | | | | | | | | | | | | |
| Need Power | 49 | 26.7 | 183 | 61.8 | 188 | 59.8 | 153 | 58.8 | 127 | 46.1 | 131 | 60.7 | 96 | 47.7 | 83 | 29.7 |
| Employment/ Economic | 30 | 15.9 | 105 | 29.2 | 49 | 15.9 | 58 | 22.7 | 104 | 35.3 | 43 | 19.9 | 56 | 28.3 | 149 | 49.5 |
| Will Not Harm Environment | 0 | 0.0 | 3 | 1.1 | 0 | 0.0 | 2 | 0.8 | 3 | 1.2 | 3 | 1.5 | 3 | 1.7 | 4 | 1.6 |
| Other | 67 | 35.2 | 4 | 0.9 | 51 | 15.7 | 2 | 1.1 | 12 | 3.8 | 3 | 1.5 | 4 | 2.2 | 6 | 1.7 |
| Positive Qualified | 2 | 1.2 | 2 | 0.7 | 2 | 0.3 | 3 | 0.9 | 5 | 1.9 | 4 | 1.6 | 0 | 0.0 | 9 | 3.1 |
| *Ambivalent* | 1 | 0.7 | 2 | 0.5 | 6 | 1.6 | 3 | 1.1 | 5 | 1.8 | 3 | 0.6 | 2 | 1.3 | 16 | 4.9 |
| *Negative* | | | | | | | | | | | | | | | | |
| Do Not Need Power | 4 | 2.5 | 7 | 3.0 | 3 | 0.9 | 10 | 4.2 | 18 | 5.6 | 4 | 1.7 | 7 | 3.8 | 8 | 3.2 |
| Employment/ Economic | 7 | 4.5 | 3 | 1.3 | 10 | 3.2 | 3 | 1.4 | 3 | 1.1 | 2 | 1.1 | 8 | 4.6 | 5 | 1.7 |
| Will Harm Environment | 1 | 0.5 | 4 | 1.6 | 7 | 2.5 | 9 | 3.9 | 5 | 1.6 | 22 | 10.7 | 13 | 7.3 | 11 | 4.2 |
| Other | 20 | 12.8 | 0 | 0.0 | 0 | 0.0 | 11 | 5.2 | 4 | 1.5 | 1 | 0.7 | 5 | 3.2 | 2 | 0.6 |
| Total Responding | 181 | 100.0 | 313 | 100.0 | 316 | 100.0 | 254 | 100.0 | 286 | 100.0 | 216 | 100.0 | 194 | 100.0 | 293 | 100.0 |
| No Response | 156 | | 24 | | 21 | | 83 | | 51 | | 121 | | 143 | | 44 | |
| *Total* | 337 | | 337 | | 337 | | 337 | | 337 | | 337 | | 337 | | 337 | |

[a] Percentages are weighted to correct for disproportionate sampling fractions.

dents faced a reality of high unemployment, low wages, and the expected outmigration of its youth.[29] Kaiparowits promised to reverse this process by bringing jobs, high wages, and a cessation of the outmigration of the young. The energy industry painted a rosy picture of the Kaiparowits project. It is not surprising, then, that support for this project was based on employment/economic considerations rather than on more altruistic reasons.

Persons voicing disapproval of energy developments did not demonstrate the same reversal of primary reasons between actual and proposed projects. Respondents who expressed environmental concerns, whether personal, political, or ideological, generalized these conerns to all of the energy projects. Because no reversal occurred, as it did among the advocates of development, it is reasonable to assume that for those few who gave negative responses, personal economic gain was not a major consideration. Instead, they appear to have viewed all projects from a general environmental perspective.

### *Page, Arizona*

The reasons Page residents gave for their attitudes toward the seven energy developments roughly parallel those found in the Utah communities. With one exception, "need power" was the most frequently cited reason. When queried about the Black Mesa–Lake Powell Railroad, however, the respondents' answers most frequently fell into the "other" category; 30.4 percent of those interviewed specified a wide variety of reasons for their attitudes, none of which justified a separate category. This response is consistent with the Page residents' view of the railway as an example of American technology, but one whose benefits have been restricted to the Navajos, rather than the Anglo population.

The responses to the proposed Kaiparowits project

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[29] Ronald L. Little, Stephen J. Kunitz, and Judith Spicer, *Impact of Development on the Demographic and Social Structures of Residents of the Lake Powell Region*, A Final Report for the Lake Powell Research Project to the National Science Foundation (Logan, Utah: n.p., 1977).

**TABLE 8**

*Primary Reasons of Page Household Heads for Attitudes toward Energy Development in the Four Corners Region*

| | *Black Mesa–Lake Powell Railroad* | | *Oil Developments* | | *Glen Canyon Dam* | | *Navajo Generating Station* | | *Uranium Development* | | *Four Corners Power Plants* | | *Black Mesa Coal Mine* | | *Kaiparowits Generating Station* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Response* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* |
| *Positive* | | | | | | | | | | | | | | | | |
| Need Power | 16 | 28.6 | 24 | 50.0 | 37 | 57.8 | 41 | 67.2 | 22 | 50.0 | 36 | 65.5 | 31 | 55.4 | 28 | 46.7 |
| Employment/ Economic | 8 | 14.3 | 10 | 20.8 | 11 | 17.2 | 9 | 14.8 | 11 | 25.0 | 7 | 12.7 | 10 | 17.9 | 22 | 36.7 |
| Will Not Harm Environment | 1 | 1.8 | 4 | 8.3 | 0 | 0.0 | 2 | 3.3 | 1 | 2.3 | 3 | 5.5 | 1 | 1.8 | 0 | 0.0 |
| Other | 17 | 30.4 | 1 | 2.1 | 13 | 20.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 6 | 10.7 | 1 | 1.7 |
| Positive Qualified | 0 | 0.0 | 1 | 2.1 | 0 | 0.0 | 1 | 1.6 | 0 | 0.0 | 1 | 1.8 | 0 | 0.0 | 1 | 1.7 |
| *Ambivalent* | 1 | 1.8 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 1.8 | 0 | 0.0 |
| *Negative* | | | | | | | | | | | | | | | | |
| Do Not Need Power | 4 | 7.1 | 6 | 12.5 | 2 | 3.1 | 2 | 3.3 | 7 | 15.9 | 2 | 3.6 | 2 | 3.6 | 3 | 5.0 |
| Employment/ Economic | 4 | 7.1 | 2 | 4.2 | 1 | 1.6 | 1 | 1.6 | 2 | 4.5 | 1 | 1.8 | 1 | 1.8 | 0 | 0.0 |
| Will Harm Environment | 1 | 1.8 | 0 | 0.0 | 0 | 0.0 | 4 | 6.6 | 1 | 2.3 | 5 | 9.1 | 3 | 5.4 | 3 | 5.0 |
| Other | 4 | 7.1 | 0 | 0.0 | 0 | 0.0 | 1 | 1.6 | 0 | 0.0 | 0 | 0.0 | 1 | 1.8 | 2 | 3.3 |
| Total Responding | 56 | 100.0 | 48 | 100.0 | 64 | 100.0 | 61 | 100.0 | 44 | 100.0 | 55 | 100.0 | 56 | 100.0 | 60 | 100.0 |
| No Response | 14 | | 22 | | 6 | | 9 | | 26 | | 15 | | 14 | | 10 | |
| *Total* | 70 | | 70 | | 70 | | 70 | | 70 | | 70 | | 70 | | 70 | |

show an important difference between the Utah and Page residents. In contrast to the Utah residents, persons from Page were consistent in their reasons for favoring both the existing and the proposed projects. Although the proportion of Page residents supportive of energy projects for "need power" reasons declined from 53.5 percent for all projects to 46.7 percent for the Kaiparowits project, the proportion is still high.

The explanation for this consistency lies in the employment pattern of Page. Nearly 79 percent of the Page sample were directly or indirectly employed by the seven existing energy projects. In addition, wages were high, construction jobs at the Navajo Generating Station were plentiful, and many workers had no commitment to the area.[30] Thus, it is unlikely that those Page residents employed in the energy industry viewed the Kaiparowits project as a salvation from economic deprivation.

In the absence of economic motivations, apparently altruistic motives were able to emerge. Personal interests, however, are undoubtedly reflected in the reasons given. Favoring the Kaiparowits project because of national energy needs could serve as a justification for employment in an industry under fire from environmentalists and Congress for air, water, and land pollution. By justifying the Kaiparowits project on altruistic grounds, Page residents vindicated similar projects and helped to alleviate the dissonance created by an increasing environmental awareness.

### *Hardin, Montana*

Table 9 shows that the response patterns of Hardin residents practically mirror those of the residents of the Utah communities. The "need power" category again predominates, with a proportion across all projects of 53.7 percent. Like the Utah sample, "employment/economic benefits" is also the next most frequently cited category. The proportion expressing environmental concerns—approximately 3.3 percent across projects—is very close to the 4.0 percent found in the Utah sample.

The similarity remains when we examine the

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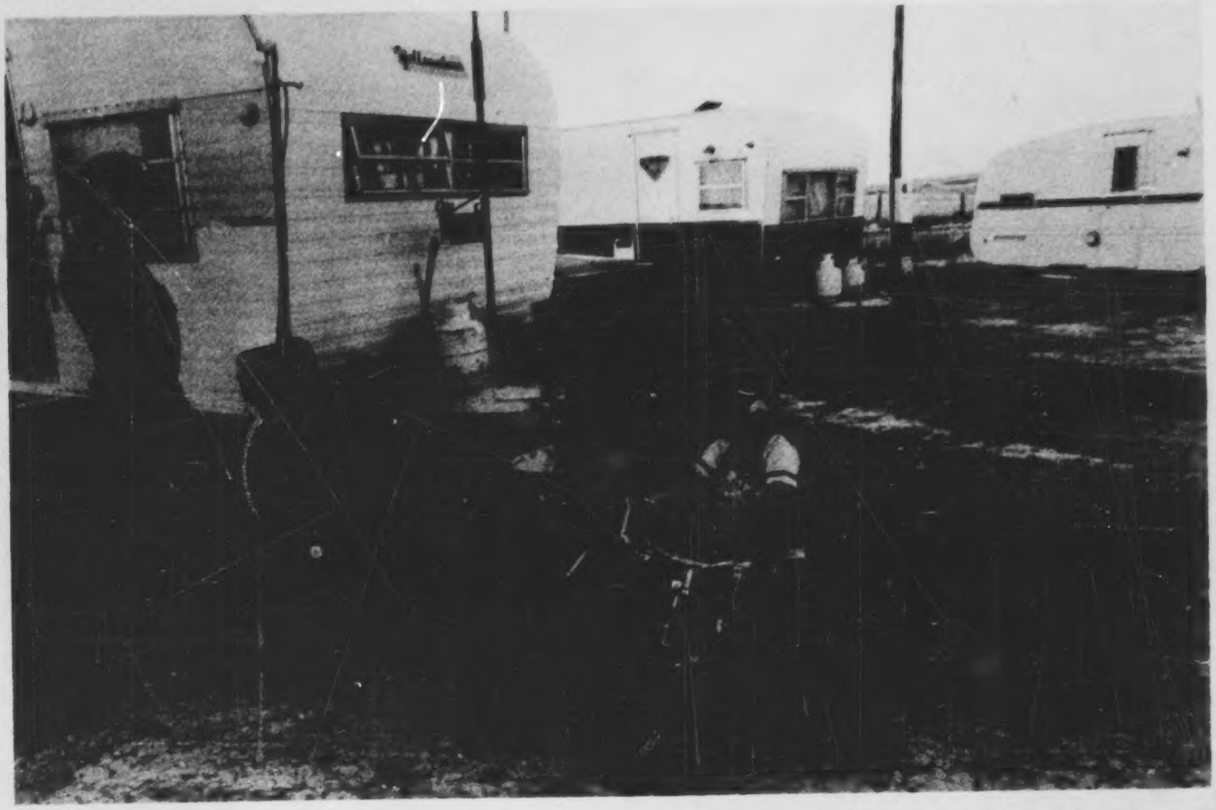
[30] Henry Frost, *Successful Transiency—Some Findings from the Page, Arizona Community Research Project*, Paper presented at the annual meeting of the American Association for the Advancement of Science, Denver, Colo., December 1961.



reasons why Hardin residents favored a hypothetical electrical-generating project or a coal-gasification plant. As in the Utah communities, the most frequently mentioned reason given switches from the "need power" to the "employment/economic benefits" category for a hypothetical rather than an existing project. Thus, even though Hardin residents were less supportive of new plants than were Utah residents, both gave economic reasons for favoring them, and in very nearly the same proportions.

The same arguments used to explain the responses of Utah residents are applicable here. The Utah communities and Hardin are separted by hundreds of miles but share similarities not found in Page, although Page is geographically close to the Utah communities. Hardin and the Utah communities are similar to each other but differ in the nature of the work force. Thus, the differences in rationales between the former two communities and the latter one can be accounted for by the residents' differing economic stakes in proposed energy developments. Promised benefits solicit economic reasons for favoring a proposed project, while past benefits or costs produce altruistic and more socially acceptable reasons.

## Expectations about Energy Developments

To shed additional light on the attitudes of people in these communities, interviewers asked people about their perceptions of what community changes they had expected from existing projects and what changes would occur if a specific energy project were undertaken in the future. Unfortunately, some of the energy developments, such as the Glen Canyon Dam, were begun several years before the study, and many of the respondents were not present at the time of construction or could not recall their expectations about change. Thus, the number of responses to these questions was necessarily limited, making conclusions and generalizations difficult.

Besides questions about expected community changes, interviewers also asked residents about personal changes they expected to result from either the construction of the proposed Kaiparowits project or the proposed expansion of the Colstrip power plants, from 700 to 2,060 megawatts.[31] These questions were intended to expose differences between conjectures about the personal and community consequences of future energy developments.

### *Combined Utah Communities*

Residents in the Utah communities were asked to recall what they expected for their communities from the seven existing energy projects. Table 10 shows that the most common response, with the exception of

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[31] Hawks.

**TABLE 9**

***Primary Reasons of Hardin Household Heads for Attitudes toward Energy Development in the Hardin, Montana, Area***

| *Response* | *Sarpy Creek Mine* No. | Pct. | *Colstrip Mine* No. | Pct. | *Colstrip Power Plants* No. | Pct. | *Yellowtail Dam* No. | Pct. | *Hypothetical Generating or Gasification Plant* No. | Pct. |
|---|---|---|---|---|---|---|---|---|---|---|
| *Positive* | | | | | | | | | | |
| Need Power | 33 | 50.8 | 32 | 54.2 | 30 | 54.5 | 36 | 55.4 | 6 | 8.6 |
| Employment/ Economic | 24 | 26.9 | 18 | 30.5 | 15 | 27.3 | 6 | 9.2 | 31 | 44.3 |
| Will Not Harm Environment | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 1.4 |
| Other | 1 | 1.5 | 2 | 3.4 | 3 | 5.5 | 16 | 24.6 | 1 | 1.4 |
| Positive Qualified | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 2 | 3.1 | 12 | 17.1 |
| *Ambivalent* | 1 | 1.5 | 1 | 1.7 | 0 | 0.0 | 0 | 0.0 | 1 | 1.4 |
| *Negative* | | | | | | | | | | |
| Do Not Need Power | 0 | 0.0 | 1 | 1.7 | 2 | 3.6 | 0 | 0.0 | 0 | 0.0 |
| Employment/ Economic | 2 | 3.1 | 2 | 3.4 | 1 | 1.9 | 1 | 1.5 | 2 | 3.0 |
| Will Harm Environment | 2 | 3.1 | 2 | 3.4 | 2 | 3.6 | 2 | 3.1 | 1 | 1.4 |
| Other | 2 | 3.1 | 1 | 1.7 | 2 | 3.6 | 2 | 3.1 | 15 | 21.4 |
| Total Responding | 65 | 100.0 | 59 | 100.0 | 55 | 100.0 | 65 | 100.0 | 70 | 100.0 |
| No Response | 7 | | 13 | | 17 | | 7 | | 2 | |
| *Total* | 72 | | 72 | | 72 | | 72 | | 72 | |

"miscellaneous," was coded "general benefits to economy." The proportions varied for each project, but the proportion across projects for this category was 18.5 percent. This pattern is to be expected, given the area's underdeveloped economy.

The category eliciting the second-highest proportion of responses was "general progress," which included 13.5 percent of the responses across all projects. This category is general and vague, indicating both the difficulty of conceptualizing a future, and the prominence of economic issues implicit in the notion. Progress has been and remains a dominant force in America's value structure.[32] For the largely Mormon Utah communities, the idea of progress takes on an added dimension. Mormon doctrine links spiritual and economic progress, making them practically inseparable: "Common secular American notions of progress were theologized (by Mormons), while theology itself was secularized."[33] Not only does Mormon doctrine justify secular, or economic, progress, it specifically encourages the development and use of natural resources.[34] The continuing emphasis on economic progress is thus consistent with the dominant value pattern of the Utah communities.

"Miscellaneous" responses, which formed the single largest proportion, were diffuse. Only a small proportion of responses was categorized "general social changes" or "general environmental changes," a pattern consistent with the results in Table 7. However, in the respondents' views of Glen Canyon Dam, social concerns accounted for 25.4 percent of responses and environmental changes for 20.6 percent. These responses reflect the fact that social and environmental benefits from the dam are more significant than economic ones. At the very least, the dam drastically altered the arid landscape, and the resultant Lake Powell is an important recreation area for the region's residents.

When residents were asked what changes they expected of the proposed Kaiparowits project, the pattern of response shifted. Although the proportion noting "general progress" from Kaiparowits—14.6

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[32] Jonathan H. Turner, "Patterns of Value Change During Economic Development: An Empirical Study," *Human Organization*, 30, Summer (1971), 126–136.

[33] Thomas F. O'Dea, *The Mormons* (Chicago: University of Chicago Press, 1970), p. 56.

[34] Little, "Rural Industrialization."

**TABLE 10**

*Community Changes in Combined Utah Communities Expected to Result from Energy Projects*

| | *Black Mesa–Lake Powell Railroad* | | *Oil Developments* | | *Glen Canyon Dam* | | *Navajo Generating Station* | | *Uranium Development* | | *Four Corners Power Plant* | | *Black Mesa Coal Mine* | | *Kaiparowits Generating Station*[b] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Response* | *No.* | *Pct.*[a] | *No.* | *Pct.*[a] | *No.* | *Pct.*[a] | *No.* | *Pct.*[a] | *No.* | *Pct.*[a] | *No.* | *Pct.*[a] | *No.* | *Pct.*[a] | *No.* | *Pct.*[a] |
| General Progress | 4 | 13.2 | 25 | 29.0 | 23 | 18.1 | 12 | 18.3 | 19 | 29.0 | 4 | 18.5 | 4 | 11.9 | 34 | 14.6 |
| Increase in Personal Finances | 1 | 3.7 | 6 | 7.7 | 1 | 0.3 | | | 14 | 25.5 | | | | | | |
| Decrease in Prices (Increased Competition) | | | | | 1 | 0.9 | 2 | 2.8 | | | 1 | 6.2 | | | 2 | 1.0 |
| Increase in Property Values | | | 4 | 6.5 | 1 | 0.9 | | | 4 | 9.1 | | | | | 1 | 0.1 |
| Increase in Tax Revenue | | | 2 | 2.5 | | | 1 | 1.8 | | | 1 | 7.0 | 3 | 10.3 | 7 | 3.7 |
| Increase in Tourism | | | | | 7 | 3.7 | | | | | | | | | 1 | 0.4 |
| Boom-Town Economy (Rapid Growth and Decline of Economy) | | | 1 | 0.6 | | | | | | | | | | | 2 | 0.6 |
| None, or No Negative Economic Effects | | | 2 | 2.7 | 2 | 1.4 | | | 4 | 8.3 | 1 | 6.2 | | | | |
| General Benefits to Economy (Business and Employment) | 8 | 24.2 | 10 | 12.5 | 19 | 12.1 | 18 | 27.0 | 10 | 19.5 | 1 | 2.3 | 11 | 32.1 | 70 | 23.9 |
| General Social Changes (Population Growth, etc.) | | | 7 | 6.2 | 40 | 25.4 | 3 | 4.8 | 1 | 2.8 | 1 | 5.0 | 1 | 1.1 | 80 | 25.4 |
| General Political Changes (Federal Involvement, etc.) | | | | | | | 3 | 4.1 | | | | | 1 | 3.4 | 5 | 1.9 |
| General Environmental Changes (Pollution, Land Use, etc.) | 1 | 3.7 | | | 38 | 20.6 | 10 | 13.1 | | | 4 | 18.5 | 1 | 3.0 | 30 | 11.1 |
| Changes to Native American Society | 6 | 19.7 | | | 2 | 1.1 | 3 | 4.9 | | | 1 | 7.0 | 6 | 18.7 | 7 | 3.1 |
| Miscellaneous | 12 | 35.7 | 21 | 32.1 | 22 | 15.5 | 15 | 23.1 | 3 | 5.9 | 5 | 29.4 | 7 | 19.5 | 33 | 14.2 |
| Total Responding | 32 | 100.0 | 78 | 100.0 | 156 | 100.0 | 67 | 100.0 | 55 | 100.0 | 19 | 100.0 | 34 | 100.0 | 272 | 100.0 |
| | 32 | 11.3 | 78 | 21.7 | 156 | 46.1 | 67 | 23.4 | 55 | 15.1 | 19 | 6.0 | 34 | 12.1 | 272 | 78.2 |
| Not Aware of Project Prior to Development | 260 | 74.0 | 220 | 68.3 | 114 | 33.6 | 211 | 58.4 | 255 | 76.7 | 273 | 79.7 | 250 | 70.8 | 27 | 9.2 |
| Not Ascertained, Refused, and Don't Know | 45 | 14.7 | 39 | 10.0 | 67 | 20.3 | 59 | 18.2 | 27 | 8.2 | 45 | 14.3 | 53 | 17.1 | 38 | 12.6 |
| *Total* | 337 | 100.0 | 337 | 100.0 | 337 | 100.0 | 337 | 100.0 | 337 | 100.0 | 337 | 100.0 | 337 | 100.0 | 337 | 100.0 |

[a] Percentages are weighted to correct for disproportionate sampling fractions.
[b] Proposed 3,000-megawatt coal-fired electrical generating plant.

percent—remained about the same as the 13.5 percent for this category across all projects, the proportion categorized as "general benefits to economy" increased slightly, from 18.5 to 23.9 percent. Fewer responses were categorized "miscellaneous," indicating perhaps a greater facility to conjecture about future states than to recall past expectations.

More importantly, there was a large increase—from 6.5 percent for all projects to 25.4 for Kaiparowits—in the proportion of responses in the "general social change" category. This change in response pattern undoubtedly reflects a heightened awareness on the part of Utah residents of the effects of energy development on the social and physical environment. From the reasons given for supporting or not supporting the various projects, summarized in Table 7, it can be inferred that household heads foresaw few negative consequences from the expected changes.

From the data in Tables 7 and 10, as well as from field observations, it is reasonable to conclude that social changes from Kaiparowits were expected to be benefits to the area, normal human adaptations to changing conditions, or minor social costs to be endured in order to capitalize on major benefits.

Although the changes expected from the proposed Kaiparowits project demonstrate a concern with social issues among the respondents that is not evident in the reasons they gave for favoring or not favoring its development (see Table 7), they do not appear to have included their neighbors, the Navajo, in their social concerns. Even though a reasonably high proportion of those interviewed expected changes in Native American society as a result of both the mine and railway, 19.7 and 18.7 percent respectively, only 3.1 percent expected similar changes to result from the Kaiparowits. The mine and railway are on reservation lands while Kaiparowits is not, but there is more to the matter than land ownership.

Local Anglo populations generally view Navajos, as well as other tribal groups, as living in a separate world, inept and undereducated, if not indolent, and cared for by misguided bureaucrats and government largesse. Paternalism, with its roots in Mormon religious doctrine, militates against the hostile behavior that typically follows such beliefs in other areas. But Native Americans still are viewed as a group apart; they are seen as socially and economically unassimilated.[35] Since the Kaiparowits project was not to be located on Indian lands, it logically follows that those interviewed would fail to consider its potential social impacts on the Navajos.

Questions to elicit personal changes people expected from development of the Kaiparowits project indicate that 42.9 percent expected some personal changes, while fully 53.6 percent expected no changes at all; the remainder were uncertain. In those communities that would have been most directly affected by Kaiparowits, the proportion expecting personal consequences was considerably greater. Some 68.2 percent of the Kanab sample and 72.8 percent in Escalante expected personal changes. Of those in the Utah sample who believed they would encounter some personal effects from the project, 70.2 percent conceived of the changes in employment/economic terms, a result consistent with the findings of Tables 7 and 10. Only 5.6 percent anticipated personal effects that were strictly social, such as crowding and delinquency. This result, too, is consistent with responses to the attitudinal and rationale questions. Another 8.2 percent viewed the problem in terms of municipal services, and 10.1 percent noted that increased pollution would affect them personally. Thus, as before, findings indicate that economic forces are a major consideration for the Utah communities.

*Page, Arizona*

Because of the small number of respondents, it is difficult to interpret the responses of Page residents to questions concerning community changes expected to result from past energy projects. The absence of cases is the result of Page's fairly recent genesis. Aside from a few Navajos, no one lived in Page during much of the uranium boom. Further, Page's population declined significantly after the completion of Glen Canyon Dam, increasing again only after the start of construction of the Navajo Generating Station in the last ten years.[36] Many of the town's permanent residents are newcomers to the region, and most of the transient construction force has lived in Page only since 1970.[37]

Despite the problem created by small sample size, comparison of Tables 10 and 11 reveals a similarity in the response patterns of Page and the Utah communities, particularly for Glen Canyon Dam and the Navajo Generating Station. In Page, as in the combined Utah communities, the most frequent kinds of community change expected to result from all developments—25.3 percent—were in the "miscellaneous" category. The high number of "miscellaneous" responses again appears to indicate that people had difficulty recalling their expectations. Responses in the "general benefits to economy" category appear with somewhat greater frequency—24.6 percent—than they did in the Utah sample, but that category is again the second most common. The Page sample contained proportionately more "general social change" responses than the Utah sample, but both the proportions and the differences between the responses of the two samples were relatively small.

The responses indicating awareness of environmental issues are noteworthy. In Page, only 3.4 percent of the responses were categorized as "general environmental change," compared with 8.4 percent in the Utah communities. Thus, in spite of overwhelming approval of the energy projects and an inclination to support the projects and expect changes of them in predominantly economic terms, a greater proportion of the Utah sample was aware of community environmental issues than the Page sample.

Page responses to the community changes anticipated from Kaiparowits are distributed in a pattern generally similar to the town's responses for the seven existing energy developments. Fortunately, the number of cases is sufficient for reasonable confidence in the validity of the results. Even though "general benefits to economy" no longer ranks as the most important category, the proportion of responses

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[35] Joseph G. Jorgensen, "Indians and the Metropolis," in *The American Indian in Urban Soceity*, ed. Jack O. Waddell and O. Michael Watson (Boston: Little, Brown, 1971).

[36] Little, "Some Social Consequences of Boom Towns."

[37] Little and Lovejoy.

**TABLE 11**

*Community Changes in Page Expected to Result from Energy Projects*

| *Response* | *Black Mesa–Lake Powell Railroad* |  | *Oil Developments* |  | *Glen Canyon Dam* |  | *Navajo Generating Station* |  | *Uranium Development* |  | *Four Corners Power Plant* |  | *Black Mesa Coal Mine* |  | *Kaiparowits Generating Station*[a] |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* | *No.* | *Pct.* |
| General Progress | 1 | 0.8 |  |  | 2 | 22.2 | 3 | 13.0 |  |  |  |  | 2 | 16.7 | 18 | 31.0 |
| Increase in Personal Finances | 1 | 0.8 |  |  |  |  |  |  |  |  |  |  | 1 | 8.3 |  |  |
| Decrease in Prices (Increased Competition) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Increase in Property Values |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 1.7 |
| Increase in Tax Revenue |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 3.4 |
| Increase in Tourism |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Boom-Town Economy (Rapid Growth and Decline of Economy) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| None, or No Negative Economic Effects |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| General Benefits to Economy (Business and Employment) | 4 | 33.3 |  |  | 1 | 11.1 | 10 | 43.5 |  |  | 3 | 42.9 | 5 | 41.7 | 11 | 19.0 |
| General Social Changes (Population Growth, etc.) |  |  |  |  | 4 | 44.4 | 1 | 4.3 |  |  | 1 | 14.3 |  |  | 14 | 24.1 |
| General Political Changes (Federal Involvement, etc.) |  |  | 1 | 33.3 |  |  |  |  |  |  |  |  |  |  | 1 | 1.7 |
| General Environmental Changes (Pollution, Land Use, etc.) |  |  |  |  | 1 | 11.1 | 1 | 4.3 |  |  |  |  | 1 | 8.3 | 2 | 3.4 |
| Changes to Native American Society | 1 | 0.8 | 1 | 33.3 |  |  | 1 | 4.3 |  |  |  |  | 1 | 8.3 |  |  |
| Miscellaneous | 5 | 42.0 | 1 | 33.3 | 1 | 11.1 | 7 | 30.4 |  |  | 3 | 42.9 | 2 | 16.7 | 9 | 15.5 |
|  | 12 | 100.0 | 3 | 100.0 | 9 | 100.0 | 23 | 100.0 | — | — | 7 | 100.0 | 12 | 100.0 | 58 | 100.0 |
| Total Responding | 12 | 17.1 | 3 | 4.3 | 9 | 12.9 | 23 | 32.8 | — | — | 7 | 10.1 | 12 | 72.2 | 58 | 82.9 |
| Not Aware of Project Prior to Development | 48 | 68.6 | 63 | 90.0 | 54 | 77.1 | 34 | 48.6 | 70 | 100.0 | 54 | 77.1 | 53 | 75.7 | 2 | 2.9 |
| Not Ascertained, Refused, and Don't Know | 10 | 14.3 | 4 | 5.7 | 7 | 10.0 | 13 | 18.6 | — | — | 9 | 12.9 | 5 | 7.1 | 10 | 14.2 |
| *Total* | 70 | 100.0 | 70 | 100.0 | 70 | 100.0 | 70 | 100.0 | 70 | 100.0 | 70 | 100.0 | 70 | 100.0 | 70 | 100.0 |

[a] Proposed 3,000-megawatt coal-fired electrical generating plant.

in that category is roughly equal for both existing and proposed projects. The "miscellaneous category" contains proportionately fewer responses but still accounts for 15.5 percent of them.

Even with a general similarity, there are several notable differences between the results for proposed and actual projects. Although 8.3 percent of responses concerning existing projects were categorized as "changes to Native American society," not a single respondent expected impacts on Indian groups from Kaiparowits. Page residents' behavior toward and beliefs about Native Americans were not tempered with the paternalism found in the Utah communities. Rather, exploitation of the Indian populations was acceptable; like many reservation border towns, unthinking and often violent treatment of Native Americans seemed almost the rule. Even though police behavior toward Native Americans in Page appeared professional and even-handed, it is not surprising that no one in the Page sample acknowledged the effects of the Kaiparowits project on Native Americans.

Two other distinctions between continuing and future energy projects should be mentioned. First, in both Page and the Utah sample, the response rate for the "general social change" category increased when people were questioned about the changes they expected from the new energy development. Second, the proportion of Page responses categorized "general progress" leaped from an average of 5.1 percent for the active projects to 31.0 percent for the proposed project, while the proportions remained constant for the Utah sample. Page respondents' reliance upon this ideologically acceptable expectation is consistent with their "need power" rationales reported in Table 8.

The frequent use of "general progress" as a community expectation probably reflects the relatively high economic status of Page respondents, whose median income was slightly in excess of $20,000. Construction and energy workers are intimately tied to a system that links progress with material productivity; new buildings or transmission lines represent progress, whereas new social structures, such as families or communities, do not. Thus, projects like Kaiparowits are synonymous with progress for those economically tied to industries dependent for their existence upon a material-growth ethic.

Respondents in Page were undoubtedly aware of their personal dependence upon such projects as Kaiparowits. Very few of the Utah respondents, however, were directly dependent upon the energy or construction industry, and they expressed other expectations about Kaiparowits, mostly in the "general benefits to economy" cateogry. Large-scale projects like Kaiparowits did not represent future security; they promised possible future advantage, but the sampled families had survived and would continue to survive with or without the project.

The importance of economic self-interest for Page respondents is revealed in their expectations about the personal consequences of Kaiparowits. Of Page residents, 32.9 percent expected personal effects, 50 percent did not, and 17 percent were uncertain. Those expecting no personal impacts were in large part transient construction workers who had no plans for remaining in the community past the completion of their jobs. However, of those who did expect to be affected personally, 94 percent thought the consequences would be "employment/economic" in nature. Fully 63.6 percent expected to obtain jobs for themselves or their kin on the new project. The Page respondents were thus even more inclined than the Utah sample to view the proposed activity in basically economic terms, a result unexpected from an examination of their rationales alone (see Tables 7 and 8). This result is predictable, however, from the Page resident's dependence on the energy and construction industries and their belief in the material-growth ethic.

### *Hardin, Montana*

Table 12 shows that the Hardin respondents most frequently expected "general social changes" from the four Montana energy projects. In striking contrast to the 6.5 percent of responses from Utah and the 9.0 percent from Page, 26.7 percent of the Hardin responses reflected social expectations. This surprisingly high proportion may reflect either the heightened awareness of Montanans of the social impacts of coal development or the accurate recall of Hardin respondents. Unfortunately, the relative contributions of the two cannot be assessed. Whatever the proportion of responses attributable to accurate recall, Hardin respondents were clearly more concerned with the social implications of resource development than respondents in the Utah communities and Page.

Although Page respondents seem more aware of social changes attributable to energy development than the Utah respondents, this impression is based on the responses of only four Page residents. Field observations indicate that residents of both the Utah towns and Hardin were strongly committed to their local communities, but Page residents were not. Community ties in the Utah towns and Hardin are evident. Many of the residents have remained during periods of economic decline, raising families and maintaining their rural lifestyles in the face of frequent economic hardships. Committed to localities peopled with friends and kin, they have shared a strong commitment to maintain the communities. It is not that the people of Page lacked this commitment; rather, many of its mobile, urban-oriented workers viewed Page as a stop on their occupational migrations. Their friendship patterns were typically temporary unless friends or kin moved to the same town on the construction circuit. Page residents shared with the dominant sector of society a commitment to an occupation rather than to people and a place.

Hardin also differs from the other two samples in the frequency with which "general environmental changes" were expected. Although only 3.4 percent of Page residents gave such responses, 8.4 percent of the Utah sample expected "general environmental changes," and the proportion in Hardin was even greater: 13.4 percent. These rural communities find environmental considerations more salient than do the more urban villagers of Page. This difference may imply a greater commitment to both the local community and the surrounding physical environment.

The remainder of the responses from Hardin resemble the patterns observed in both of the other sample areas. There are frequent expectations of

**TABLE 12**

*Community Changes in Hardin Expected to Result from Energy Projects*

| Response | *Sarpy Creek Mine* No. | Pct. | *Colstrip Mine* No. | Pct. | *Colstrip Power Plants* No. | Pct. | *Yellowtail Dam* No. | Pct. | *Proposed Colstrip Units 3&4* No. | Pct. |
|---|---|---|---|---|---|---|---|---|---|---|
| General Progress | 7 | 29.2 | 1 | 5.3 | 6 | 33.3 | 5 | 18.5 | 2 | 3.8 |
| Increase in Personal Finances | | | | | | | | | | |
| Decrease in Prices (Increased Competition) | | | | | | | | | 3 | 5.7 |
| Increase in Property Values | | | | | | | | | | |
| Increase in Tax Revenue | | | 1 | 5.3 | | | | | 1 | 1.9 |
| Increase in Tourism | | | | | | | | | | |
| Boom-Town Economy (Rapid Growth and Decline of Economy) | | | | | | | | | | |
| None, or No Negative Economic Effects | 1 | 4.2 | | | | | | | | |
| General Benefits to Economy (Business and Employment) | 8 | 33.3 | 5 | 26.3 | 4 | 22.2 | 1 | 3.7 | 13 | 24.5 |
| General Social Changes (Population Growth, etc.) | 6 | 25.0 | 6 | 31.6 | 3 | 16.7 | 9 | 33.3 | 8 | 15.1 |
| General Political Changes (Federal Involvement, etc.) | | | | | | | | | | |
| General Environmental Changes (Pollution, Land Use, etc.) | | | 2 | 10.5 | 2 | 11.1 | 9 | 33.3 | 9 | 17.0 |
| Changes to Native American Society | 1 | 4.2 | | | | | | | | |
| Miscellaneous | 1 | 4.2 | 4 | 21.1 | 3 | 16.7 | 3 | 11.1 | 17 | 32.0 |
| Total Responding | 24 | 100.0 | 19 | 100.0 | 18 | 100.0 | 27 | 100.0 | 53 | 100.0 |
| | 24 | 33.3 | 19 | 26.4 | 18 | 25.0 | 27 | 37.5 | 53 | 73.6 |
| Not Aware of Project Prior to Development | 27 | 37.5 | 33 | 45.8 | 33 | 45.8 | 24 | 33.3 | | |
| Not Ascertained, Refused, and Don't Know | 21 | 29.2 | 20 | 27.8 | 21 | 29.2 | 21 | 29.2 | 19 | 26.4 |
| *Total* | 72 | 100.0 | 72 | 100.0 | 72 | 100.0 | 72 | 100.0 | 72 | 100.0 |

"general progress" (21.5 percent) and "general benefits to economy" (21.3 percent), with fewer expectations falling into the "miscellaneous" category (13.3 percent) and "changes to Native American society" (1.1 percent). The proportion of Hardin responses designated "miscellaneous" was considerably smaller than those in the Utah and Page samples. Apparently, Hardin residents found it easier to recollect past expectations, perhaps because the geographic region under consideration was so much smaller than the Lake Powell area. In addition, in the Hardin study the number of projects was smaller, all projects were within the coal industry, and the length of the recall period was shorter.

When Hardin respondents were questioned about the community consequences they expected from the proposed Colstrip Units 3 and 4 power plants, their responses were quite different from those for the four existing projects. The proportion of the responses in the "general progress" category declined from 21.5 to 3.8 percent, a figure much lower than in Utah or Page. Concern with "general social changes" also decreased, from 26.7 percent of the responses to 15.1 percent.

It is not entirely clear why progress and change became relatively less important when the proposed project became the focal point of the question. Part of the answer may be found in the increased proportion of responses in the "miscellaneous" category from 13.3 percent for actual projects to 32.0 percent for the proposed project. Inasmuch as Colstrip Units 1 and 2 were not entirely completed and their consequences were not totally apparent, perhaps the Hardin residents had difficulty conceptualizing the future effects of yet additional units. Lacking experience upon which to base their expectations, they became uncertain.

The proportion of "general environmental changes" expected increased from 13.7 percent for existing projects to 17.0 percent for Colstrip Units 3 and 4. This concern of Hardin respondents about the effects of future energy projects is reflected in Table 5, and their awareness of environmental issues far exceeds that found in either Page or Utah. In turn, the level of environmental concern about new projects in the Utah sample far exceeds that in Page. Again, the two rural samples evidence a greater solicitude for the environment than the more urban transient population in Page.

The Hardin sample was remarkably inattentive to Native American issues. The question of the expected community changes resulting from proposed additions to Colstrip Units 1 and 2 elicited not a single response in the "changes to Native American society" category. For the combined energy projects, the proportion of responses in that category was only slightly larger at 1.1 percent, and this figure resulted from only one response about the Sarpy Creek mine, which is on Crow land. During the study period there appeared to be a great deal of tension between Crows, Northern Cheyennes, and Anglos. White relations with Indians in Hardin are similar to those in Page, if not more extreme and exploitative.

The requirements of the Hardin study did not allow for extensive questioning of residents about the personal effects they expected from proposed energy developments. Nevertheless, 68.9 percent indicated they were in favor of Units 3 and 4 at Colstrip, 9.8 percent provided a qualified yes, 16.4 percent were opposed to the project, and 4.9 percent were ambivalent. Hardin residents were thus less enthusiastic about the proposed additions to Colstrip than about existing projects, but they were more enthusiastic about the additional units there than about a hypothetical project (see Table 5). In this instance, the specification of the project brought increased support.

Additionally, Hardin residents were asked if they were better off before coal development began; 34.3 percent replied "Yes." Given the exaggerated claims of the developers and the boosterism of Western coal communities, so large a proportion of respondents stating they had not benefited from the coal development is somewhat surprising. On the other hand, 83.4 percent of the sample did not derive their income directly or indirectly from coal.

## Energy Development: Promises and Realities

The Northern Great Plains and the Rocky Mountain states possess enormous coal, oil, natural-gas, uranium, oil-shale, and tar-sands reserves. The enormity of these reserves dwarfs the scanty population of the regions. Metropolitan centers are as sparsely distributed as is the population itself. Outside of these few metropolises, the rural population is functioning in a state of underdevelopment. The pattern of the past fifty years has been one of population loss, a shrinking agricultural base, a shift from labor-intensive to capital-intensive activities, and a consolidation of land ownership and capital in the hands of individuals and multinational corporations located in distant metropolises.

The net result of these trends has been a loss of political and economic control by the people of the regions. Self-sufficient communities in the 1920s are now satellites of the larger and more dominant metropolises.[38] Because the regions' wealth generally emanates from the land, extractive industries such as farming and mining predominate. Not the yeoman farmer, but the agribusinessman; not the small coal miner, but the energy conglomerate with control over a variety of fossil fuels reap the rewards. Of the remaining land, most is controlled by such federal agencies as the Bureau of Indian Affairs, the Bureau of Land Management, and the Forest Service. The rural populations of the regions are thus at the mercy of external groups whose interests may or may not coincide with their own.

The concentration of economic and political control in outside hands has made these rural populations vulnerable to economic forces they do not determine and has created an unequal distribution of the surpluses of the regions.[39] Outside interests enjoy a considerable trade advantage over these people: effort and energy expended by rural entrepreneurs and farmers are not as valuable as comparable activity in the metropolis.

Into these underdeveloped regions comes the promise of wealth produced by the extraction and processing of fossil fuels. If economic incentives are not enough, nationalistic goals of energy self-sufficiency are introduced to entice local participation in the projects. Participation does not imply equal participation, but it does promise an increased standard of living; it does not promise equal rewards for equal effort, but it does promise better rewards.

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[38] Jorgensen; Little, Kunitz, and Spicer.

[39] Joseph G. Jorgensen, *Development and Underdevelopment in the Rural Western United States*. Paper presented at the annual meeting of the Western Social Science Association, Denver, Colo., April 1978, p. 12.

The promise of industrial development has been alluring to numerous small villages in the rural Rocky Mountains and Northern Great Plains. Few have the power or control over resources necessary to reject a proposed energy development, but fewer still have turned any away. On the contrary, competition for these projects is the norm. So it is with the communities reported on here. All have succumbed to the charms of economic arguments at one time or another, and perhaps they will succumb again in the future. All have had close association with boom-town conditions, and Kanab, Monticello, and Page have been boom towns. In the hands of the federal government, Page has been a boom town twice. Their attitudes toward energy developments can well serve as a gauge for future experiences portended by the increasing utilization of Western energy reserves.

What do local residents think? It is obvious that on the surface they want to participate in the energy boom. That is, they want to participate in the American economy at a level more equal to what the American economic creed teaches each of us to expect. For residents of the sampled communities, energy development presents their first opportunity to have a share of the economic pie. But do they participate in the benefits? The evidence presented here and elsewhere questions such an assumption.[40] Only in Page were large numbers of local residents employed by the energy industry and thus able to reap the direct benefits of industrialization.

In spite of limited direct participation in the rewards from mineral extraction and processing, the sample communities nonetheless overwhelmingly favored not only past projects, but proposed and hypothetical projects as well. A large majority of respondents supported every energy activity in the immediate area. Past experiences do not seem to have dampened future expectations of material benefits.

One might argue that although residents received no direct gain, the ubiquitous and mysterious multiplier effect had provided their communities with secondary or tertiary benefits. Having benefited economically, they supported new energy projects based on the common assumption that future events will resemble past events. Unfortunately, the blessings of the multiplier effect in Western energy boom towns are very much in doubt, expecially in towns that lack the infrastructure necessary to support a large population influx.[41] Even though data from this study cannot provide a definitive answer to the question of the multiplier effect, it is likely that any secondary or tertiary benefits were not distributed among the population but accrued to the small entrepreneurs whose businesses were underutilized before the development.

Past economic expectations have probably gone unmet, but the denizens of these rural hamlets nevertheless continue in their quest for the American dream. Their fixation upon economic issues is not unusual, given the underdeveloped state of their economy. The focus of the sample communities on economic growth, however, did not particularly distort their vision. Although they disagreed among themselves, rural residents were able to distinguish among energy projects. That is, they were not evaluating them as a single economic entity; although they tended to give their staunchest support to those projects that appeared to offer them the greatest economic gains, their judgements were not based on strictly economic criteria.

The more urban residents of Page, in large part boom-town immigrants, were unable to discriminate among the various energy projects, judging them all the same. Those who had won a more equitable share of the rewards of energy development were the least able to distinguish among projects. Their consistency in evaluating energy activities reflected the energy workers' vulnerability to the well-being of the industry. Without continuing energy projects, their relatively high incomes would be jeopardized. Their support of the industry was thus consistent with their economic self-interest.

Given these strong motivations for viewing energy developments in economic terms, it is surprising that respondents were able to consider environmental and social issues. Even though their environmental and social concerns did not play a major role in their perceptions, these concerns were nonetheless evident. Rural residents demonstrated a greater awareness of social and environmental issues than urban respondents.

The concerns of these rural people undoubtedly stem from their strong commitment to both their communities and the land, commitments that have created a dilemma for them. They have remained in an underdeveloped region, undergoing relative hardships, when migration probably would have reduced their difficulties. They remained in the rural areas because of attachments to family, friends, community, or the land. By encouraging energy developments, however, they threaten to alter or destroy the very things they value in their communities. By definition, communities change when population changes, and energy development implies population change. Family and friendship patterns are nearly as fragile, and alteration of the natural landscape is an inevitable consequence of population increases, even if there is no pollution.

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[40] Little and Lovejoy; Gene F. Summers and Jean M. Lang, "Bringing Jobs to People: Does It Pay?" *Small Town*, 7, September (1976), 4–11.

[41] Mason Gaffney, "Counter-Colonial Land Policy for Montana," *Western Wildlands*, 3, No. 3 (1977), 16–25.

The dilemma for rural residents is whether to encourage energy developments in exchange for material well-being accompanied by a deterioration in lifestyle, or to discourage energy development for the sake of maintaining a lifestyle accompanied by the loss of material advantages. In any event, this dilemma is more illusory than real. The desires of rural residents are of little consequence for the decision-making machinery of government or industry. Isolated rural residents have too few votes and too little economic clout. The energy industry loves to display local community support for its planned projects, but nothing requires a company to discard a project just because a local community opposes it.

Likewise, nothing within the power of most communities can secure energy developments. Project locations are determined by political power, raw materials, and available markets. Certainly, the National Environmental Policy Act (NEPA) provides some protection from undesirable projects, but NEPA requirements are all too often treated as pro forma. Furthermore, there is nothing in the Act that specifies how unquantified social costs are to be weighed against economic benefits measured in dollars and cents.

Government and industry are not the only groups that usurp the decision-making role many rural residents believe is rightfully theirs. Through legal maneuvers and lobbying, representatives of environmental groups determine land-use policies for vast tracts of public lands in the Rocky Mountain and Northern Great Plains states. Right or wrong, many survey respondents believed that since they lived near public lands, they were entitled to have decision-making power over them; at the minimum, they felt that they deserved a strong role in the decision-making process. This belief has led to conflicts between environmentalists and the residents of the study regions, who view the environmentalists as interlopers interfering in local affairs. But there is probably more to this hostility than a simple disagreement as to appropriate regulations for the use of public lands. In all likelihood, the hostility arises from the powerless position occupied by rural Westerners, particularly those affected by energy developments.

Until more is known about the perceptions and attitudes of people who must absorb the effects of energy developments, little can be done to avoid, mitigate, or eliminate these problems. Conflicts will continue to arise as long as energy projects in rural Western communities are treated by decision makers and researchers as just another case of rural industrialization. The human problems of energy development will be understood only when researchers concern themselves with the unique historical and cultural circumstances of communities affected by energy projects in the West.

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